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THE GIFT OF HIS DAUGHTER.

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A

MATERIA MEDICA,

OF THE

UNITED STATES,

Systematically Arranged.

BY WILLIAM ZOLLICKOFFER, M. D.

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Corresponding member of the Medical Society of the District of Columbia; honorary member of the Medical Faculty of Berks county, of the Medical Society of the state of Delaware, and the Society of Natural Sciences of St. Gall, Switzerland; member of the College of Physicians of the Valley of Virginia; honorary member of Washington Medical Society, and member of the Helvetic National Academy of Natural Sciences, &c.

SECOND EDITION, WITH EMENDATIONS, &c.

Baltimore:

PUBLISHED BY JAMES LOVEGROVE.

WM. WOODDY, PRINTER.

1827.

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TO THE HONOURABLE

SAMUEL L. MITCHILL, A.M.M.D.L.L.D; F.R.S.

Late Professor of Materia Medica and Botany in the University of the state of New York, &c. &c.

DEAR SIR,

BELIEVING that it will meet with your approbation, I have taken the liberty of inscribing the succeeding pages to you, as a small testimony, not only of the high respect and consideration that I entertain of your pre-eminent professional knowledge, in conjunction with the unlimitted disposition, that you have on every occasion evinced, in behalf of the healing art; but, likewise in relation to the extensive and general fund of information that you possess, on the various subjects, connected with the diversified objects of research and intelligence, which constitute the learned scholar and profound statesman.

The subject of the succeeding pages, you are intimately acquainted with, and have taught its principles with a success, unparalleled by few professors in this country.—Therefore, it would appear that you possess the necessary competency to judge how far I have been successful, in arranging the articles indigenous to the United States under the heads to which they properly belong.

Should the effort that has been made, with a view to the accomplishment of the desirable object, meet with your approbation, and, coincide with the sentiments of the medical community, my most ardent and sincere wishes will be realized.

With the most profound respect and consideration, I remain, dear Sir, your obedient humble servant.

WILLIAM ZOLLICKOFFER.

INTRODUCTION.

THE medical practitioner, who has become intimately acquainted with the remediate virtues, and consequent operation, of the vegetable productions indigenous to the United States, cannot but be fully impressed with the sentiment of the utility to be derived therefrom, in a practical point of consideration. He, indeed, may, in consequence of the information that he may possess on this interesting subject, have it not unfrequently in his power to avail himself of the advantage of selecting a variety of invaluable articles, that, when directed under circumstances favorable to their exhibition, may be equally productive in their salutary effects, to the most active remedies, selected from the vegetable kingdom, of exotick origin. This circumstance, taken into consideration in conjunction with that of its being considered an accomplishment to the American physician to be acquainted with the Materia Medica of his country, should act as a powerful incentive, in inducing him to be indefatigable in the accumulation of the knowledge therewith con-

nected. But, although within the limits of the vast, and almost unbounded territory of our country, an immense field for research and discovery, is presented to the eye of the investigating mind, it is to be deeply regretted, that but few of the votaries of the medical science, comparatively speaking, have, as yet, become sufficiently convinced of the infinite advantages to be derived from a prosecution of the means that are calculated to develope the hidden treasures therein contained.

The improvements and discoveries that have been made, in relation to the therapeutick operation of our native plants, within a few years, should be sufficient to induce those who possess a spirit of emulation, to remain no longer silent or negligent, but to arouse themselves in the aid and support of a cause, the ultimate intention of which has for its object, the melioration of the corporeal afflictions connected with human existence.

Does it not seem singular, indeed, to discover, in conversation with an American physician, that he is not in the possession of the most limited share of information, connected with the vegetable Materia Medica of his native soil? It is true, that a knowledge of this department may, in some measure be dispensed with; but this circumstance is not a sufficient argument of its being unnecessary to pursue the most direct means to become informed of the virtues and doses of our native plants, and the diseases in which they are calculated to be productive of the most salutary effects.

Whatever may be productive of benefit to mankind should be earnestly sought after, by every practitioner who has the good of his species at heart; and who rightly considers the awfully responsible situation in which he is placed, as the dispenser of remedies for the removal and alleviation of diseases.

It is generally expected, at present, by the community at large, that physicians are more or less acquainted with this subject, and who, above all others, should be in possession of the necessary information appertaining to the subject under consideration.

The object and intention that is in view, in the compilation of the matter contained in the succeeding pages, is to facilitate, if possible, the study of the remediate virtues of our medicinal plants. In order to effect this, care has been taken to consult the most approved authorities, and such selections have been carefully made, as may be adapted to the purpose; giving, in the mean time, such experiments as have been made by gentlemen who have obliged me with their communications; and also, making such remarks as have come under my immediate notice.

I have, likewise, adopted the classification of JOHN MURRAY, M. D. from its supposed simplicity, as well as the utility which it affords; with the exception of including the class of Escharotics in the third division of chemical remedies, which I have transferred to the second division of local stimulants. The cause of this alteration will be explained hereafter, in the chapter on Escharotics.

How far I have been successful in the attempt that has been made, I must leave to the judgment of an ingenuous medical public to decide; and if I have erred in some respect, it has been in the pursuit of the most satisfactory means that may be calculated to improve this department of the healing art; and with the intention of rendering every facility in my power, to aid in the accumulation of the best information connected with the subject of its progressive improvement.

Westminster, Maryland, 1826.

Materia Medica.

CHAPTER I.

On the Improvement of the Materia Medica.

THE application of medicines, in the first instances in which they were employed, with a view to the removal of diseases, and of imparting tone to debilitated constitutions, is, no doubt, coetaneous with the first maladies with which mankind were afflicted. All attempts towards an investigation of the cause that led to the administration of remediate articles, in the days of ignorance and superstition, when medical science was in a state of infancy; or before any correct systems were, perhaps, ever conceived of, would not be calculated to result in any practical utility. We have, however, every reason for believing, that mankind, in the more remote periods of antiquity, was naturally led to conclude, that such substances as possessed neither es-

culent or nutritive qualities, might be calculated to alleviate pain, remove spasm, and restore, to the performance of their functions, such parts of the living economy as were deranged in consequence of disease. From these days, gradual, and almost imperceptible improvements have been making, until the present period, in which we may congratulate ourselves in having a Materia Medica, abounding with innumerous productions of a nature infinitely important. These productions, although they might at the time they were first introduced, have been recommended upon popular authority, have not been continued in the present list, from this circumstance; but in consequence of the intrinsick virtues they have been found to possess, that have stood the test of ages without becoming lessened in their medicinal characters.

An attentive perusal of the various authors, both ancient and modern, on this department of the healing art, will amply compensate the industrious inquirer, and fully convince him, that the present improved state of medical science, has been owing to the constant rejection of such productions as have been found nearly, or altogether inert, and consequently, unworthy of the consideration of the profession.

Considerations also, of the importance of the introduction of such substances as possess remediate powers, have influenced the minds of the industrious votaries of the medical faculty to use their unwearied exertions, with the view of adding to the valuable means already accumulated, for the most dignified and lauda-

ble purposes that can possibly attract the attention of intelligent beings.

The Materia Medica, particularly relating to our own country, has, within the lapse of the last few years, increased in point of richness of matter. Much has been done, to the great honour of some of her citizens, by their devotion to an examination of the hidden treasures, that reside in that part of the vegetable kingdom indigenous to our soil; and much more, doubtless, remains to be effected. The credit, however, appears only to be attached to a few of the medical men of the United States, comparatively speaking, for the present acquaintance we possess of the therapeutic operation of our native plants.

Whatever are the motives that prompt men of an extensive intellectual capacity, to devote their time and attention to the cultivation of particular scientific pursuits, in order to extend a knowledge of the subjects that may be the object of their investigations, by their originality, research and experience, is a matter of very little importance. Whether it be with a view to arrive at a certain point of pre-eminent celebrity, or ultimately benefit the community in general, the happy consequences resulting from their discoveries having a direct tendency to promote knowledge, and greatly facilitate the means of acquiring information, undoubtedly entitle them to the respect and esteem of every enlightened and liberal individual.

We should, therefore, consider ourselves much indebted to those, who have directed their attention to

the support and improvement of the Materia Medica, in conjunction with the various departments of knowledge coming within the grasp and comprehension of the human mind. For, the branch of medical education, of which the succeeding pages treats, cannot be properly cultivated without calling into our aid the subjects of Botany, Pharmacy and Chemistry—each of which departments appear to be more or less connected with the successful prosecution of its developement. Such, indeed, is the relationship that not unfrequently exists between the different branches of science, that it appears, no one can be studied with any very great degree of proficiency, without having reference to one or more that may interlink with it.

Botany, as connected with the improvement of the vegetable Materia Medica, certainly merits a certain degree of attention; and when properly applied, cannot fail, in some measure, in contributing to the facilities already in our possession. I do not here wish it to be understood, that much advantage may result from the idea of adopting the criterion that has very often been depended on, relative to plants that are, to a certain degree, related to each other by botanical affinity, possessing a similarity in medicinal virtues, or in alimonious qualities This rule, in some few respects, appears to be rather correct, but in the general, is rather defective. One of the classes of Linnæus, includes a number of plants that would be calculated to corroborate this sentiment, did not experience prove, that in many of the other classes, a contrary, and entirely op-

posite result occurs. This rule may be even extended to the different species belonging to the various genera of plants, in which we not unfrequently discover, that opposite powers exist, not only in the different families, but in the different individuals in these families; which might, without any difficulty, be sufficiently proved beyond contradiction. A circumstance that must have attracted the attentive consideration of every practical modern botanist. Therefore, nothing less than confusion would be created were this sentiment reduced to practice, with a view of determining the virtues of plants, and much injury be sustained by the subjects of the first administration of unknown productions in a remediate point of view. The most certain rule by which the virtues of plants may justly be appreciated, and by which their properties may become established, is that which is founded upon an attentive examination of the influence they exert on the human system, and their consequent applicability to the diversified cases and diseases in which they may be indicated.

No correct opinions can likewise be drawn, of a conclusive nature, of plants, from their similarity in appearance, or rather, natural resemblance, in as much as vegetables of the same natural family not unfrequently display properties immediately opposite to each other, both as relates to their sensible, as well as their operative, qualities.

It has been considered superfluous to adduce the variations that exist, not only in the genera, but in the

same natural orders or familles, in attestation of the correctness of the observations that have been made.

The immortal Linnæus, who has justly and very emphatically been styled the Prince of Naturalists, conceived, that the remediate powers of plants might be judged of from their particular colour. To him we are indebted, in no small degree, for the present knowledge we possess upon the subject of botany; he remarks, "Color pallidus, *insipidum*—viridus, *crudem*—luteus, *amarum*—ruber, *acidum*—albus, *dulce*—niger, *ingratum* indicat."

In some respects these rules may be considered as being correct; but, were they reduced to practice, they would, perhaps, in an hundred instances, be found to fail in more than half the number.

Furthermore, it is an opinion that pretty generally prevails among many medical gentlemen, that all lactescent plants possess highly noxious powers; from which circumstance they naturally infer that an unknown vegetable is poisonous, without ever pursuing the proper course of investigation, in order to acquaint themselves of its virtues. It is true, that the Papauer Somniferum, or Poppy, and some other productions of this kind, are decidedly narcotic in their effects; but, perhaps, a greater number of lactescent plants are more acrid and irritating; hence, their internal administration is succeeded by amesis and catharsis. This seems to be the case with all the species belonging to the genus Euphorbia, with the exception of the Euphorbia Hypericifolia, which is slightly narcotic, and pow-

erfully astringent. Some few lacteous productions are also inert. It has, moreover, been conjectured, that from the taste a pretty conclusive inference may be drawn of the peculiar powers of plants. Perhaps, this criterion may, in a generality of instances, be more successfully applied, than in all the preceding ones. It is not, however, without its defects, and were this rule depended on as an infallible guide, in some instances it would lead us into error, which would never be discovered until a disappoinment would occur, in the affects resulting from their exhibition. Plants, resembling each other in their qualities, not unfrequently exhibit analagous effects upon the living economy. For instance, bitters are generally tonic in their operation, aromatics stimulating; and such as possess a styptic taste are calculated to produce astringent effects. An objection to the first rule, that is, of bitters being tonic, is that of its application not being general, and consequently having considerable exceptions; for instance, Opium, Digitatis, Stramonium, and the Nicotiana Tabaccum, with some other articles, that possess bitterness to a very great degree, are narcotics, instead of being tonics. The two last rules are not quite as defective.

Judging of the virtue of plants, from their odours, we are unable to form, in one out of ten instances, an idea of their precise powers.—Indeed, it is a circumstance scarcely worthy of notice.

From the foregoing observations, we are naturally led to conclude, that no correct opinion can be formed of

the particular operative agency of any of the vegetable productions, from our becoming acquainted with the classes, orders, genera, and natural families to which they belong; or either from their sensible qualities. We are also impressed with the sentiment, that these criteria are not invariably to be depended on, as being infallible in directing us in our researches with a view to developing and making known the hidden virtues contained in the unexplored fields, mountains and valleys in which nature has placed them in soils congenial with their luxuriant growth.

These rules, should, however, not be entirely lost sight of, in as much as they may, under certain circumstances, have a tendency at least to direct our attention to an examination of the virtues of such unknown substances as may occasionally present themselves to our consideration; and, therefore, aid us in some measure in our progress towards the improvement of the vegetable Meteria Medica of our native soil.

Botany, as a department of natural history, promises us more advantages, in its application to the purposes of the improvement of the Materia Medica. In having a thorough knowledge of this subject, we may with ease be able to distinguish the different genera from each other, and the various species thereunto belonging. This facility will enable us, by comparison, to know whether or not the plants that may come under our notice have ever been the subjects of experimental investigation. The decisions, under circumstances of this nature, can soon be made; and if we

should find that an opportunity is left for prosecuting the necessary course of experiments, all that we shall have to do, will be, to enter at once upon the subject, that the earliest opportunity may be embraced, to communicate the result of our researches to the medical community.

The criteria heretofore spoken of, may, under certain circumstances, however, be had reference to, whenever they may be deemed necessary to aid us in our experimental investigations. But, to depend on them altogether, would not only be superfluous, but calculated to lead us into error, and create nothing less than confusion.

We now proceed to make a few remarks upon the subject of Pharmacy, as appertaining to the improvement of the Materia Medica. This very important branch of therapeutick science, has for its object the preservation, arranging, compounding and intermixing the various articles included in the Materia Medica, so that as simple substances, we may obtain their active properties in the most convenient form, and in a state of combination, increase their activity according to the intention we may have in contemplation. In order to prosecute this intention to advantage, there are a number of operations necessary to effect the purpose, some purely mechanical, and others altogether chemical. In this place we shall, however, only briefly notice that part which consists in the collection and preservation of medicinal substances, until an opportunity is afford-

ed for subjecting them to the necessary course of experiments; or to preserve such as have been found to possess useful and valuable properties, until it may be necessary to exhibit them.

The vegetable kingdom furnishes us with articles that are used in medicine in their natural state. In collecting these, our object should be directed to the collection, or choice, of the most sound and perfect plants, or the particular parts of such substances as we wish to procure or select. After having procured such substances as we may wish to preserve, they should be defended from the effects of moisture, great heat, cold, and freely exposed to the air. "Yet when their activity depend on volatile principles, instead of being freely exposed to the air, they must be confined as much as possible from its contact."

Annual roots should be collected before they shoot forth their stalks or flowers; biennial roots in the harvest of their first year, or the spring time of the second; perennial roots either in the spring time before the sap has begun to mount, or in harvest after it has returned. Worm eaten or decayed roots, except in a few cases of resinous plants, are to be rejected; the rest to be cleaned immediately with a brush and cold water; immersing them in the water as short a time as possible, and cutting off the radicles and fibres when not essential. Roots which consists chiefly of fibres, and have but a small sap, may be dried at once; if juicy and not aromatick in a heat somewhat below 100° Farenheit; but if aromatick, by simply exposing them to a current of

cold dry air, and frequently turning them in it. If very thick and strong, they must be split and cut into slices, and strung upon threads; if covered with a tough bark, they may be peeled and dried while fresh. Such as lose their virtues by drying are to be kept buried in dry sand."

There is some difficulty as relates to laying down general rules for observation, respecting the collection of the stalks and leaves of plants, in as much as some lose their active qualities by age, while others become more active. Aromaticks should, however, be gathered after the flower-buds are formed; and biennials before they shoot; and perennials before they flower, or, about the time of flowering. All of which ought to be procured before the dew falls, or after it is off. As a general rule, they should be put in a warm, dry, and shady place; being careful at the same time not to permit them to lay very close together.

Plants that are very succulent should be placed on a sieve, and frequently turned until they are properly dried. The cortical part of trees should be collected at different seasons, the spring is generally preferred for those that possess more or less of resinous matter; and the fall season for such as contain gum.

In gathering of flowers, it may be remarked, that the most proper time is the middle of the day, and that when they have just opened. These are to be dried as leaves. It may not be improper to observe, that when they lose their colour and smell they are unfit for use. The different parts of plants that possess

oil or volatile principles, should be collected annually. Such as do not possess those properties are not liable to lose their activity so soon, and may, therefore, be kept for two or three years without sustaining any injury.

By attending to the rules that have been laid down, we shall not be unsuccessful in preserving the different parts of plants for the purposes for which they may be intended.—This is essentially necessary to be done, if we wish, either to be successful in the experiments to which we intend to subject them, or if the intention is to exhibit them as remedies.—And without these precautionary measures be adopted little success may be anticipated as to the result of our experiments.

The application of the principles of chemistry, when directed with a view to the accumulation of remedies, selected from the vegetable kingdom, undoubtedly affords us considerable facilities. We cannot, however, from the advantages that it imparts to us, be able to form conclusive sentiments in relation to the medicinal character, or alimonious qualities of plants, from what ever may be the result of its application, with a view of becoming informed of the proximate principles of such productions, as may be made the subject of examination: in as much as plants which differ very widely in their sensible, operative and nutricious qualities, not unfrequently yield upon analysis, analagous results, in relation to their proximate principles. We cannot, therefore, judge, or rather form a correct idea of the character of plants, from whatever may be the result

of an analysis, in order to ascertain the proximate principles that enter into their composition: for it is impossible to "discover on what chemical principle, or what peculiarity of combination, the medicinal virtues of any active vegetable depend; for although these, in common with other qualities, may arise from chemical composition, yet the varieties of combination, from which they derive their origin, are too minute to be detected by our modes of analysis."

It would, therefore, be altogether superfluous, and unattended with any useful practical results, to attempt to form ideas of the medical operation of any unknown vegetable from whatever might result from an attentive course of investigation, with a view of ascertaining the proximate principles of such a production.

Experience and observation, guided by a well regulated and informed judgment, appears to be the only true criterion worthy of attention, and should be considered sufficiently adequate to enable the votaries of medical science to form correct views of the operation of remedies, in conjunction with their application to the diseases in which they may be useful, for "experience, which is constantly contradicting theory, is the only test of truth," and the only medium by which we can ever expect to arrive at perfection on subjects connected with the successful application and administration of remediate agents.

Chemistry, in relation to its combination, furnishes us with some very efficacious remedies which entirely depend on these combinations; both from the mineral and

vegetable kingdoms; for quicksilver is possessed of no active properties in its natural state, but when united with muriatic acid, so as to form, what is usually denominated muriate of mercury, a very poisonous product is obtained, which should be administered with the greatest of caution. When united with a smaller portion of acid, so as to produce the sub. mur. hyd. we obtain an article much milder in its operation; an article indeed, that may justly be ranked among the most useful remedies. By the proper application of chemical principles, we are also able to obtain the more active parts of plants in a highly concentrated form; from which circumstance the doses are not only rendered much smaller, but the products thus obtained are frequently much more palatable; and when not more pleasant to the taste, the unpleasant gustation may be very easily covered, on the account of the dose being exceedingly small.

What indeed would the profession have known of *Nicotin*, of *Emetin*, of *Morphia*, of *Daturia*, and several other articles, had not chemistry, some time since, have taught us how to procure those substances from the productions in which they exist in native combination. "Copious in resources, this noble science explores all nature, and educes from each province the most valuable remedies."

What would be the present state of the Materia Medica, had we until the present period have been deprived of the advantages that chemistry has blessed us with. It is true that we would have been in the pos-

session of a certain number of native remedies; but at the same time we would have been deprived of an invaluable list that we now possess in consequence of the chemical researches of many of the worthy cultivators of this amusing and useful science. Daily are its advantages made known in the increased accumulations of the most active and potent remedies, and in the furtherance of the grand object of that department of medicine, that has for its ultimate end, the irradication and alleviation of the most distressing maladies incident to humanity.

But, although chemistry imparts to us a means of adding to the present list of active medicines, the medical practitioner, who is only partially informed of its principles, cannot expect to lend his aid in the introduction of new and useful remedies. In every undertaking he will be foiled in his expectations, and nothing less than confusion will be the result of all his efforts. —He may be able even to theorise with advantage on many important subjects, but this will avail him but little, if he is not a practical chemist, in his researches and investigations.

CHAPTER II.

Remarks on the Modus Operandi of Medicines.

Coeval with the radiant beams of medical intelligence that first illumined the minds of our distinguished progenitors until the present period, the subject of the Modus Operandi of the articles included in the Materia

Medica, has been involved in no inconsiderable degree of obscurity. It has however excited and attracted more of the attention of the first men of rank and standing in the profession, within the last century, than in all the preceding ages; but independent of this circumstance, as well as the indefatigable exertions that have on various occasions been made, and that very frequently by the most erudite and scientifick men, much difference in sentiment at the present time, exists, and little, it is to be feared of a lucid nature, is as yet known. A correct idea on this intricate subject cannot therefore be expected, although efforts have repeatedly been made by the different writers with a view of understanding and subsequently explaining what they have conceived as approximating to the truth.—It is nevertheless to be hoped, from the rapid progess that is daily making in the various departments constituting the healing art, that the day is not far distant when more correct sentiments may be developed in connection with the point under consideration; when it is not unlikely but what the medical community will be placed in the possession of arguments founded upon successful experiments that, will be fully satisfactory in proving whether the present doctrine of the "medication of the blood," is correct or not; a doctrine which appears daily to lose its votaries among the generality of the educated and enlightened. This theory supposes that, medicines are conveyed into the sanguiferous system through the medium of the absorbents in the identick state in which they are given, and produce their diversified ef-

fects, in consequence of their being more or less generally, circulated throughout this system.

Another, and we would suppose a more correct opinion relative to the Modus Operandi of medicines at present is advanced, and which is becoming more and more popular daily; is that which imputes the salutary result arising from the application of remediate agents to the impression they induce upon the solids which is transmitted throughout the system, by a sympathetick principle, that without contradiction exists. This opinion appears not only consistent with reason, but is in a considerable degree corroborated by the daily experience of every learned and well educated physician; and as a strong presumptive evidence of its correctness, were there no other circumstances that could be adduced in its support, is, that of those who endeavour to sustain the sentiment of the "medication of the blood," avowing, "that the animal body possesses the faculty of transmitting impressions from one part to another," and that, "such a power is essential to the preservation of the living economy." They go a little further than this, when they assert that "the existence of sympathetick communications, and their agency in propagating remediate impressions throughout the system, is incontrovertable." These, as well as many other remarks, could be quoted, which would go still more conclusively to show, that their theory is imperfect, and somewhat contradictory; which argues very forcibly, that it is very defective, and if defective, inconsistent with sound

principles. So far they coincide in the doctrine of sympathetick communications, although they do not exhibit the slightest disposition to yield their assent to the position, that all remedies act in this way; but, strenuously advocate, and strongly enforce it, as an idea entitled to no small share of attention, that many medicines produce their salutary effects, through the medium of the circulation, in the identick state in which they are admonished; and, with a view to the establishment of this hypothesis, detailed accounts of the results of some experimentalists are adduced, in which the various articles that were given, have been detected in the serum of the blood and in the chyle, in their primordial state. Experiments of this kind are rather doubtful, in as much as they have, in the majority of instances, been attended with contrary results, even in the hands of individuals equally competent to the task. Therefore it may, upon correct principles, be inferred that they are calculated to throw very little light in aid and confirmation of the present received opinion relative to the, "medication of the blood."*

*Magendie observes, that "in as much as the lacteal vessels absorb the chyle and carry it into the venous system, it has been assumed that they fulfil the same office for all those substances which are mixed with the aliment, and which, without being digested, pass into the blood." "Authors," he likewise remarks, "have generally said, for example, that drinks are absorbed with the chyle; but as they have not shewn this to be the case, by a single experiment, we may reject the opinion, on this ground alone, as doubtful. I have endeavoured to satisfy my own mind on this point, by direct experiments on living animals, but I

Admitting, however, for a moment, that medicines have been displayed in the chyle, in a few instances only, is not the investigating mind, that has strictly attended to the phenomena of the absorbent system, forcibly

have not met with a single instance in which I could detect the drink mixed with the chyle."

This same writer further more observes, that "the chyle never assumes the colour of those colouring substances which are mixed with the aliment, as some others have asserted." This, he states, M. Halle "ascertained by direct experiments." He moreover says, "I have recently repeated these experiments with precisely the same results. After causing animals to eat indigo, saffron and madder, I have inspected the chyle, but never found that its colour seemed to have any relation to these substances." He was equally unsuccessful in detecting the odour in the chyle of the odoriferous substances that were given.

Professor Chapman, of Philadelphia, says "it is at least shown by experiments made by myself many years ago, and since more than once repeated with greater precision on a more extensive scale by the graduates," of the University of Pennsylxania, "that none of the preparations of iron, of copper, of lead, nor the colouring matter of indigo, of madder, or of rhubarb can be traced even so far as the chyle." Now, if medicines enter into the circulation with the chyle, as some have attempted to explain, why can they not be detected in this fluid? And, how can they enter into the blood, through this medium, without their becoming developed, in consequence of the application of suitable tests, did they really become mixed with it? It is, therefore, strongly to be inferred, as the thoracic duct is the only route by which the chyle passes for the purposes of nutrition, and as remedies have not been discovered here in their identick state, that all the attempts to prove that they enter the blood in this way, must be considered altogether unimportant and unacceptable.

struck with the view of these discoveries being the consequence of a deficiency in the performance of the functions of this important system. Facts are innumerable in which this fluid has universally been found to contain the same constituent principles, whether it be the production of animal or vegetable aliment, only differing in the proportions of the same ingredients.

Furthermore, if substances strictly medicinal in their operative qualities, enter the circulating mass, in a perfect state of undecomposition, why is it, that the mildest articles with which we are acquainted, when, injected, or thrown into the veins, and consequently become only partially mixed with the blood, invariably produces unpleasant effects, which are not unfrequently attended by dangerous, if not fatal consequences? It has been said, that the unpleasant effects thus produced, are altogether to be attributed to the circumstance of the fluids that have been injected, possessing either an increased or diminished temperature, to that of the animal bodies that were made the subjects of experiments; and not on the account of the articles made use of, exerting any injurious effects. This advanced sentiment displays more ingenuity than it does that kind of soundness of professional knowledge, which is alone founded upon practical experience, in connection with a well regulated and educated mind. If evidences could be invariably brought forward of an uncontrovertable nature, of the "medication of the blood," in every instance in which articles have been given, with a view of detecting them in the serum of the blood, and in the chyle, we might in-

fer, and our inference would doubtless be confirmed, that the same train of happy consequences would be effected, from throwing into the blood, through the medium of the veins, remedies appropriated for the removal of some of the most distressing maladies incident to humanity, in a much shorter period, than that which is generally allowed for their operation, when exhibited in the ordinary way; but they are productive of the consequences that have been noticed heretofore; therefore, the idea of the admission of foreign substances in the circulation, appears to be unfounded.

The advocates of the doctrine of sympathy, do not doubt, but what certain substances enter into the circulation in a decomposed state, or, after having become subjected to the operative agency of the powers of assimilation, for instances of this kind sometimes occur. But the substances thus changed cannot operate as remediate agents, in consequence of the change which they undergo, completely depriving them of their active powers; for it is presumed, that it will be acknowledged, that whenever any particular article has been exposed to, and operated on by the digestive function, that it ceases, in a direct ratio, to the change that is produced, to possess the same constituent principles, and of course, to maintain the same original virtues, in as much as it loses its identick qualities, in a direct proportion, as it departs from the primary constituents entering into its composition. The question may be asked, why does rhubarb operate on the bowels when it exhibits its colouring principle in the urinary discharges? It may

no doubt be correctly supposed, that its medicinal virtues do not exist or reside in the colouring matter, which enters into the composition of this substance. The same argument seems equally plausible, in relation to madmer, which discolour the bones of animals which feed on it. The juice of the water-melon which acts as a diuretic, and which imparts its saccharine taste to the urine, no doubt operates in the same way, as all diuretic medicines; but, I very much doubt, whether the saccharine parts which are taken up by the absorbents, after becoming assimilated with the chyle, and subsequently deposited as an excretion in the bladder, is ever concerned in the diuretic operation of this delicious and nutrative fluid; but altogether depends on the same diuretic power, that exists in an infusion of the seeds of this article, which scarcely has any saccharine taste.*

In relation to the articles, it may be remarked, that, if they were entirely operated upon by the digestive organs, no remediate effect could be produced, from what has already been observed; but in consequence of their not being generally operated on, the portions remaining

*That some part of madder, and the water-melon, is acted upon by the digestive powers, appears, from the circumstance of the former being eaten by animals, and the latter being considered an article belonging to the materia alimentaria; and we might with safety conclude, that rhubarb contains a portion of mucilaginous matter which is susceptible of being operated on by the function of assimilation, with many other vegetable remedies, into the composition of which certain mucilaginous parts enter, which is often unconnected with their operation.

unchanged, or undecomposed, of course, are as well fitted to produce their effects, as the extract of stramonium, which is divested of the oleaginous portions of the plant from which it is prepared, and a variety of other extracts, which sustain a loss in their preparation, that existed in native combination, previous to the process being adopted, and pursued in, in order to reduce them to the condition of extracts. Therefore, some articles may have certain inert portions that enter into their composition, that may be susceptible of being acted upon by the powers of anamalization, that exist independent in their composition, of any medicinal part which they contain, which is, consequently taken up by the absorbents, and conveyed throughout the circulation, and which being subsequently thrown into the secretions and excretions, has given rise to the opinion, that their active powers have been received into the circulation. This error, in forming conclusions, may be attributed in a great measure to the want of a proper discriminative view, not having been taken by many who have attempted the investigation of the subject. The manner in which the substances that have been taken into the circulation, are caused to display themselves in the secretions and excretions, is satisfactorily accounted for, by the distinguished Professor Chapman, who very beautifully, and no doubt equally correct, observes, that "when thrown into the secretions and excretions, being thrown beyond the control of the vital energies, chemical affinities are sometimes again brought into play, by which these substances are, in part, or wholly regene-

rated." In this way, it would appear probable, that a reproduction of certain articles, either in part, or altogether takes place; and, it doubtless will be concluded to be an explanation that is entitled to much weight and consideration.

It is not improbable but many substances are entirely operated on by the digestive function, and subsequently enter the sanguiferous system, such as sulphur and some other articles; but, it cannot be supposed, that they can be productive of any remediate effects, after having undergone this change; but that the effect that is produced by these remedies, is the result of the impressions that they induce, previous to their being assimilated with the food and entering into the blood, through the medium of the thoracic duct, in conjunction with the chyle.*

The ingenious and indefatigable Murray, although of the opinion that medicines in some instances are capable of producing an action upon particular organs, by

A thought arrests my attention while running over this part of the subject, which is, that the idea of sulphur being changed by the action of the digestive function, seems rather strange. Be this as it may, I would only remark, that it cannot be detected, provided it becomes thus altered with any of the chemical agents, in as much as it is very doubtful, whether our present knowledge of the chemical science, imparts to us the necessary degree of information, by which any substance, after becoming assimilated with the food, can be detected. It is therefore, to be with equal plausibility concluded, that some articles strictly medicinal enter the blood in this way, as to suppose to the contrary; but under such circumstances, they cannot produce any medicinal operation.

being received into the blood, was very far from supposing, that they entering into the circulation in their active state. He observes, that, "there are many substances which appear to be capable of being so far assimilated with the food, as to enter into the composition of the chyle, and are received into the circulating mass." And "being brought, in the course of the circulation, to particular organs, they often excite in them peculiar actions." Now, if remediate agents cannot operate through this medium, after being brought within the influence and control of the digestive function, as has heretofore been explained, Murray's hypothetical sentiment must exhibit but little correctness, although he is certainly correct in believing in the impossibility of their being admitted into the blood, without this preparatory process being previously completed. Who then is to decide, when one sect of distinguished medical men believe, that remedies enter the circulation without being altered, and thus produce their diversified effects; and the other, supposing that the impressions they make are not affected in this way, but by being previously prepared, as above stated, without which, it would seem impossible that they could reach these parts?— Here it will readily be perceived, that the advocates of the idea of remedies entering the circulation, have adopted two methods in its support, very much at variance with each other, a circumstance that must be calculated to create confusion, and render every attempt abortive,

to a full and conclusive elucidation of this obscure and complex notion.

In attempting an explanation of the manner in which the various articles included in the Materia Medica, produce the impressions upon the different parts, connected with the complicated machinery of the living economy, by a sympathetick principal, much less difficulty exists, and only one position can be advanced, in order to come to a conclusive determination of its correctness. That certain parts, sympathise with each other, is proved by the daily experience of every intelligent medical practitioner. Thus, an impaired state of the stomach and bowels, not unfrequently induces a morbid derangement in the action of the liver, either by producing a torbid state of this viscus, or exciting it to an undue action, which is often removed by correcting the primary diseased parts. This, as well as many other circumstances of a similar nature, often occurs, which is attributable in an eminent degree, to the relationship which exists between the different parts of the body, by the nervous communication.

Other evidences, equally, and perhaps, more conclusive, can be advanced in favour of a sympathetick communication existing, by which impressions that are only local, as to the part upon which they are originally made, become general, from the existence of this principle, as intimately connected with animal life.

The beneficial results that succeed the application of epispastics, in rousing up the nervous energies, in cases of diseases of a debilitated type, and thereby producing

an increased and healthy action throughout the general system, with other external stimulant applications—Opium relieving pain, when applied to the surface, and often removing spasm, both local and general. The application of tobacco to the epigastric region, suddenly inducing vomiting, and if continued for any length of time, being succeeded by great prostration of strength, are all attestations of an equivocal nature, strongly corroborative of this communicative agency.

It is also obvious, that the same susceptibility of impression, and of communicating action, results from the administration of medicines by the stomach. "But however difficult it may be to conceive the mode in which this can be communicated by the nerves to distant parts, the fact is established by sufficient evidence. It is evident from the effects of these substances being produced in a shorter time after they have been received into the stomach, than they could be were they to act by being absorbed by the chyle into the circulating mass. The stimulus of wine or of opium received into the stomach will instantly remove lassitude, and increase the vigour of the circulation, or of muscular exertion; or the same substances, in a larger dose, will, with the same celerity, depress all the functions, and exhaust the powers of life. Digitalis given to sufficient extent will speedily reduce, to a great degree, the frequency of the pulse; or a large dose of cinchona, given half an hour before the expected recurrence of the paroxysm of an intermittent, will prevent its attack. It has also been proved by experiment, that this communication of action

from the stomach to other parts, in a number of cases, does not take place where the brain and spinal marrow have been destroyed, though the heart and vascular system have been preserved uninjured."

It was not my intention to dwell at length upon this subject. The number of pages, that have been allotted for the introduction of the medicinal productions indigenous to the United States, would not admit of entering into a full discussion, and general examination of the correctness of the theory of the medication of the blood; or, afford an ample opportunity of advancing arguments at large in illustration and defence of the hypothesis relative to the existence of a sympathetick communicative agency, whereby remediate impressions are transmitted from any particular part throughout the system. Those, however, that have been made, may at least, be calculated to direct the attention of such as feel, in some measure, interested in its behalf, to a particular investigation of the peculiar way in which medicines effect the grand object of their administration. I, therefore, pass on to make some desultory remarks on the classification of the articles of the Materia Medica, which, according with the present plan that has been adopted, in the arrangement of this work, of necessity demands consideration.*

*In relation to the subject of cuticular absorption, which has not been taken into consideration, in noticing the present subject, and which may be conceived to be rather unfounded, it may not be improper to make the following remarks. Those who believe in the idea of this effect being produced on the surface, differ in no inconsiderable degree from some of the most correct experimental-

CHAPTER III.

On the Classification of the Articles of the Materia Medica.

DIFFERENT are the classifications that have been presented to the medical publick, by those who have written on the subject of the Materia Medica. We may, however, reasonably conclude, that all of those classifications possess their advantages. This acknowledgement does not consequently go to convey the idea, that

ists, who have, by a well directed course of experiments, in a very satisfactory manner, shown the inconsistency of the sentiment in the support of this obscure subject. It is, however, admitted, that under certain circumstances, that this absorption takes place; but occurrences of this kind are rather rare, and when they take place, there appears but little doubt, but what they may, with great propriety, be ascribed to the sympathetick assuming an unnatural action. Let the supporters of this hypothesis, peruse the different authors in favour of both sentiments, and if they are not under the influence of that evil (prejudice) so destructive to the improvement of the medical science, there is but little doubt, but what they will soon be induced to relinquish their slender opinions for the sake of adopting more rational ideas on this important subject. We are aware, that experiments have been made, with apparent success, that would appear conclusive in the support of cuticular absorption; viewing the whole, however, that have been made in the aggregate, by the supporters of this opinion, in conjunction with those that have been prosecuted by such as rejected it, as unfounded, the scale we think, will greatly preponderate in favour of the latter.

every classification is perfect in, and of itself; or, that no one possesses advantages over all the others.

The most simple form in which the articles of the Materia Medica, have been placed, consists in their alphabetical arrangement. This plan has very generally been adopted in the different dispensatories and pharmacopœas. It is, however, attended with more convenience, than practical utility, it conveying no specifick virtue, or communicating no idea of the comparative influence in the operation of medicines.

Another arrangement is founded on the sensible qualities of medicines, from which it would seem impossible to form a correct idea of their particular powers, in as much as many articles which display the same sensible qualities, operate very differently; for instance, all bitters are not tonics; all the saccharine substances are not purgatives; neither do all plants which possess analogous odours, produce the same effects upon the animal economy.* Another arrangement is that which

*Cartheuser's classification, which is founded upon the sensible and more evident qualities of medicines, displays more ingenuity, than real utility. It is based upon their "being acid, absorbent, glutinous, astringent, saccharine, acid, aromatic, bitter, emetic," &c. With all its apparent usefulness, it is not capable of being reduced to general application, in as much as there are many substances in which we are unable to detect any sensible qualities which possess considerable medicinal power. Cartheuser, we are informed, was not unfrequently under the necessity of deviating from the plan of his classification, in order to found a part of his division on the operative effects of the remedies he was in the habit of resorting to in practice.

has reference to the kingdom from which the articles of medicine are selected. A system founded upon this principle, necessarily includes the three classes of animal, of mineral, and of vegetable substances. This classification, is perhaps less important than the one just noticed. Other systems, which have been regulated upon the supposed effects which medicines produce upon the animal frame, have underwent a change, or been arranged into the number of classes which seems to have accorded with the views of those who have written on the subject of the Materia Medica. For instance, although the celebrated Cullen, and the distinguished Darwin, have founded their classifications pretty much upon this principle, the former has noticed twenty-three classes, and the latter only seven; while others have given us different numbers of classes, which seems to have been the result of their own fanciful notions, upon the subject of the idea which they have formed upon the proper number of heads, under which these substances should be arranged.

Another division which we shall notice, is that of Vogel, "who has classified his materials according to their effects on the human body. Some are found to have the property of rendering the solid parts of the frame more lax than before, and are hence denominated relaxing medicines; others possess a directly contrary power, and are consequently called indurating medicines. A third kind are found to excite inflammation in the part to which they are applied, and are therefore named inflammatory; while a fourth, from being per-

ceived to increase or diminish the vigour of the body, or what is called the tone of the solids, have acquired the name of tonics in the first instance, and sedatives in the second. Some, again, are conjectured neither remarkably to increase nor diminish the tone of the solids; but to perform their office, either by correcting some morbid matter in the body, or by evacuating it; in the former case they are called alterants, in the latter evacuants."

This division, it will appear, has its imperfections with many others.

The chemical and miscellaneous arrangement of Doctor Kirby, next claims our attention, which consists of eighteen classes, to both of which some objections may be alleged. To the first, in consequence of its entering too deeply into the department of pharmacy, for a mere list of the materials of medicine; and to the second, as evincing a carelessness, or want of methodizing talent, which we should not have expected, and a total departure from every system whatever.

The classification of Murray, which has been almost regularly pursued throughout the present work, has been adopted under the idea of its displaying more simplicity of arrangement and general utility, than any of the preceding divisions that have been noticed. And, in order to give a correct view of the foundation of his arrangement, we quote his own observations verbatim, that his reasons may be fully known and understood, for adopting the classification which is peculiar to himself. He remarks, that "the general

operation of medicines, as that of exciting to action, either the whole system or particular organs. This is the primary effect; and to express the agency of the substance producing it, the term of stimulant operation may be employed. And according to the kind and degree of this, different effects are produced, the discrimination of which may afford several important distinctions.

Thus, of those stimulants which act on the general system, the operation is extremely different with regard to diffusibility and permanence. Some are highly diffusible in their action, or soon after they have been received into the stomach they produce increased vigour, which is immediately conspicuous in the force of the circulation, the nervous system, or the different functions of the body; while, with regard to others, the same general effect is produced more slowly, and is scarcely perceptable but from their repeated or continued administration. Those which are diffusible are at the same time usually transient in their operation; while those which produce excitement more slowly are generally more permanent. And by both diversities of action, it is obvious their operation must be productive of very different effects: the high excitement produced by the one is soon followed by proportional languor; the gradual excitement from the other being reduced more slowly, they occasion no such sudden changes, but are fitted to produce more lasting effects. These varieties of action serve accordingly to explain the differences in the power of some of our most im-

portant medicines, and they afford the distinction of two principle classes, Narcotics and Tonics; the one, so far as their action is understood, being apparently general stimulants, diffusible and transient, the other slow and permanent

"From this susceptibility of impression and of communicating action to other parts, the stomach becomes an organ of the first importance," "since it is that, by means of which medicines are brought to act on the system by the medium of the nerves. It sometimes happens, however, that a similar extention of action may take place from other parts; and hence effects may be obtained from medicines by applying them to the surface of the body similar to those which they produce when they have been recived into the stomach." Examples of this kind are to be found in the application of a number of substances to the surface. "Opium applied to the skin, either in the solid form or in that of tincture, often relieves pain and removes spasmodic affections, either general or local. Tobacco applied to the region of the stomach excites vomiting; and garlic applied to the feet acts as a powerful stimulent and raises the strength of the pulse."

We are unable to assign a cause for these peculiar properties, to ascertain why the action of some should be extended to the system in general, or why that of others should be determined to particular parts," "by the medium of the nerves. But from the possession of such properties it is evident that their powers, as medicines, must be more diversified than if they were

merely general stimulants, varying in the degree of their stimulating power; and farther, that distinctions are thus afforded for establishing a variety of classes.

"Another cause remains to be pointed out, by which the actions of medicines are diversified. Besides acting as stimulants, they sometimes occasion changes, either mechanical or chemical, in the state of the fluids, or of the simple solids, and these changes are productive of medicinal effects.

"This operation of medicines was formerly supposed to be more extensive than it really is Sufficient weight was not allowed to the important fact, that the actions of external agents on the living body are governed by laws different from those which regulate the actions exerted between the masses of particles of inanimase matter. Hence we find in medical speculations, constant attempts to trace the causes of diseases to changes merely mechanical or chemical, to plethora or obstruction, to laxity or rigidity, to the abundance of acid or of alkali, or to the presence of other specific acrimonies still less defined. The explanations of the operations of medicines were of course founded on these notions, and hence the distinctions of inspissants, attenuants, antacids antalkalies, antiseptics, and several others with which the Materia Medica was loaded.

"These errors are now nearly exploded. We have learned to consider the living system as endowed with peculiar properties and modes of action, incapable of being explained on mere mechanical or chemical principles; and to regard external powers acting upon

it as producing changes conformable to these peculiar properties of life. Yet, still we can sometimes refer a salutary change, either general or partial, to changes mechanical or chemical in the solids or fluids. Thus, symptons arising from irritation may be removed by lubricating the irritated surface; acid in the stomach may be corrected by the exhibition of alkalies or absorbent earths; and urinary concretions may be dissolved, or at least their increase may be prevented, by the use of alkaline remedies. These properties of certain medicines are not perhaps highly important; but they demand attention, and they afford sufficient distinctions for the formation of several classes.

"In conformity to these views, the classification of the articles of the Materia Medica, founded on their medicinal operations, may be established. It is only necessary to observe, principally to obviate hasty criticism, that in classifications founded on this principle, perfect precision is not to be expected. The science of medicine is still in so imperfect a state, particularly in what regards the relations of external agents to the living body, that both in arranging the classes, and associating the substances which we place under each, we must frequently rest satisfied with remote analogies, which will not always bear a strict examination. This is an imperfection at present unavoidable; it must be either submitted to, or such modes of classification must be altogether rejected; and the question therefore ultimately is, not whether these arrangements are unobjectionable, but whether the advantages belonging to

them are not such as to justify their adoption even with their imperfections.

"Under the first division of the arrangement, I propose, may be placed those substances which exert a general stimulant operation on the system. Of these there are two sub-divisions, the diffusible and the permanent; the former including the class of narcotics, with which may be associated, as not very remote in their operation, the class of antispasmodics; the latter comprising two classes, tonics and astringents, through these there is a gradual transition from the more highly diffusible stimulants, to those more slow and durable in their action.

"A second division comprehends local stimulants,—those, the action of which is determined to particular parts of the system, such are the classes of Emetics, Cathartics, Emmenagogues, Diuretics, Diaphoretics, Expectorants and sialagogues, with which may be associated the classes of Errhines, and of Epispastics, founded on direct local application.*

"The remaining classes include substances which do not operate according to the laws peculiar to the living system. To one division may be referred those, the effects of which depend on the chemical changes they produce on the fluids or solids; the classes are refrigerants, antacids, lithontriptics, and exchar-

*To these I have placed the class of Escharotics; the reasons will be hereafter assigned under the head of this set of remedies.

otics." (Which last I have left out.) "To another division belong those, the operation of which is purely mechanical,—Diluents, demulcents, emollients, anthelmintics."

The following is the table of classifications according to this principle of arrangement.

A Table of Classification.

A. General Stimulants.
- a. Narcotics,
- a. Antispasmodics,
- b. Tonics,
- b. Astringents.

B. Local Stimulants.
- Emetics,
- Cathartics,
- Emmenagogues,
- Diuretics,
- Diaphoretics,
- Expectorants,
- Sialagogues,
- Errhines,
- Epispastics, & Rubifacients,
- Escharotics,

C. Chemical Remedies,
- Antacids,
- Lithontriptics,
- Refrigerants,

D. Mechanical Remedies.
- Diluents,
- Demulcents,
- Emollients,
- Anthelmintics.

The classes of Antacids, Lithontriptics, Diluents, and Emollients, have not been introduced unto the

present work, from the circumstance of there not being materials to render it necessary. They have consequently been intentionally omitted.

First Division.

From the preceding table of classification, it will readily be observed, that the first division of the articles of the Materia Medica, has been made the subject of a sub-division. The first, including the classes of *narcotics* and *antispasmodics*; and the second, those of *Tonics* and *astringents* Independent however of this circumstance, a regular graduation may easily be perceived by the attentive observer, in the general operative agency, or stimulant influence of the articles comprehended in each of the above classes; the remediate agents strictly considered and transcient as Narcotics and Antispasmodics, being more diffusible than those that have justly received the appellation of Tonics and astringents, which are, it is well known, much less diffusible, but more lasting in the impression they produce upon the human system.

CHAPTER IV.

Narcotics. *

According with the plan that has been adopted, in the arrangement of this work, the class of narcotics is the first that, solicits the attention and consideration of the reader. The various articles thereunto belonging, cannot but be considered, as being of infinite importance, and indispensably necessary in the management of a number of important diseases that are of daily occurrence. From the peculiar operation of this set of remediate agents, the skilful practitioner is enabled to pursue and prosecute his profession with a certain degree of success, which would never be connected with the administration of his remedies, were he altogether

*"These are medicines which have a power of diminishing the animal energy, and hence inducing torpor and sleep, during which this energy is usually recruited and restored. They diminish the sensibility of the part to which they are particularly applied. They diminish the action and tonic power of its muscular fibres. They produce a peculiar sensation in the system in general. They diminish the energy of the sensorium.

"The changes induced in the system from the primary effects of narcotics, are, retardation in the blood's motion in the part more immediately acted upon; diminuation of the force of circulation in the system in general; diminuation of excitement in the powers of sensation and reflection; and diminuation of vigour in muscular action through the system."

deprived of the privilege of their employment. By a proper modification of the doses of them, he may, in the generality of instances, alleviate the most acute and excruciating pain, as well as allay local and general spasm to which the animal economy is subject. He may increase and accelerate the frequency of the pulse, whenever he may deem it productive of salutary consequences; * and, indeed, from the circumstance of its being the characteristick mark of narcotics to remove the sensibility and irritability of the system, they may be successfully directed in a variety of cases that will be hereafter noticed, as far as our indegenous vegetables of this kind have been advantageously exhibited. †

Narcotics.

Lycopus Virginicus,	Bugle-weed.
Nicotiana Rustica,	Common green Tobacco.
Nicotiana Tabacum,	Tobacco.

*Narcotics, when given in larger doses than what is necessary to produce an increased action of the heart and arteries, lessen the frequency of the pulse, and consequently diminish irritation, hence their utility in many cases of disease which yield in a great measure upon the peculiar impressions which this set of remedies produce.

† It may not be improper to remark, in this place, that narcotics are generally contra-indicated, in cases where a preternaturally languid state is evident: or in diseases accompanied with an evident lethargic disposition; as likewise where much torpor exists in the living economy.

Datura Stramonium,	Thorn apple.
Datura Tatula,	A variety of the Stramonium
Solanum Dulcamara,	Bitter Sweet.
Cicuta Maculata.	American Hemlock.
Rhus Toxicodendron,	Poison Oak.
Rhus Radicans.	Poison Vine.
Rhus Vernix.	Poison Sumach.
Gaultheria Procumbens,	Mountain Tea.
Kalmia Latifolia.	Broad-leaved Laurel.
Kalmia Angustifolia,	Dwarf Laurel.
Actœa Racemosa,	Rich Weed.
Humulus Lupulus,	Common Hop.
Veratrum Viride,	American Hellebore.

Lycopus Virginicus, Bugle weed, *Diand*, *Monog*, *Folio*.

The present species of *Lycopus*, may readily be recognized by its root, which is perennial and creeping. Its leaves which are rather broad, smooth, lanceolate, deutate and entire at their base; these not unfrequently assuming a purplish aspect with the stem, which is herbacesus quadrangular, pubescent and generally simple. The flowers, which are white and situated in whorls.

Of the medicinal application, consequent and operation of this production, I have no practical experience; I am disposed, however, to think favourably of it from what has been said of its remediate character, by gentlemen who have spoken in recommendation of its utility in certain cases and diseases in which they have direct-

ed its exhibition. Its taste is slightly bitter, nauseating, and very offensive.

The diseases in which it appears to have been resorted to with good effect, are those of *Hæmoptisis* and incipient *Phthisis Pulmonalis*. The experience of Doctors Pendleton and Rogers upon its efficacy, is certainly worthy of regard and consideration, and indeed sufficient, to induce the medical practitioners of this country to give it a few trials in the above affections.* Doctor Ansel W. Ives says, "from all the information I have been able to collect relative to its operation, I am of opinion, that it is one of the feeblest vegetable narcotics, possessing qualities more active than would be inferred from its sensible properties, and sufficiently so to lessen the frequency of the pulse, diminish irritation, and allay cough, and "that it partakes of the medicinal character of Digitalis, sanguinaria canadensis, and Spigelia Marilandica, but is probably less active than either of them."† The infusion may be given as a common drink, prepared in the proportion of an ounce of the leaves, to a pint of boiling water.

Nicotiana Rustica, common green Tobacco, *Pentand, Monog, Folio Siccata.*

This species of *Nicotiana*, is also known by the names of *Nicotiana Minor*, *Hyosciamus luteus*, and *Hyosciamus Niger*. It possesses less strength and ac-

*Vid. New York Medical and Physical Journal, vol. 1, page 179.

†See Paris's Pharmacologia, with his additions and illustrations, vol. 2, page 220, 221.

tivity than the *Nicotiana Tabacum*, and from its gentle operation, may reasonably be concluded to be a safer remedy in the generality of instances, in which this article may be indicated.

Nicotiana Tabacum,* Tobacco *Pent*, *Monog*, *Folia Siccata.*

Among the narcotic poisons, there is perhaps no article that is used with more impunity, than the *Nicotiana Tabacum*. As a luxury it is more particularly known to the inhabitants of the various sections of the habitable globe, and although its use in the common practices of snuffing, smoking, and chewing, have become so universal, without its producing any apparent inconvenience, it nevertheless, induces in persons that have not become familiarized to its poisonous and deleterious influence, all the unpleasant and distressing train of symptoms which characterises this class of remedies.

Several varieties of the present species of tobacco, are cultivated in this country for home consumption, as well as for exportation, all of which are well known to possess a strong narcotic fœtid odour, and a slight bitter, accompanied with an acid burning taste. When taken internally in an over dose, it speedily induces vertigo, nausea, vomiting, and lessening in an eminent degree the arterial action, which is accompanied by a corresponding proportion of general muscular relaxation.—

**Petum* is the Brazilian name.

The circumstance of the continued use of tobacco, causing it to lose its effect upon the human system, perhaps would scarcely be credited, did not daily experience enable us to present hundreds of cases of the kind, in attestation of the assertion. For it is almost impossible to cast our eyes around us in any of the circles in life, but what we discover either a tobacco chewer, a snuffer, or a smoker. Tobacco does not possess this peculiarity alone, by which the animal economy is enabled to become accustomed to its baneful influence, in as much as the system accommodates itself to the operation of narcotics generally, and more easily than any other set of remediate agents. This remarkable fact, can only, however, be satisfactorily accounted for upon the principle of that surprising law, which controls and regulates the complicated machinery of man, that enables the system to bear with impunity, whatever would in an unaccustomed state, be productive of most fatal effects.*

*It is supposed, that the custom of smoking this article, was first introduced into England by Sir Walter Raleigh, immediately on his return from this country; and James the First, wrote an invective declamation against it, under the title of "A Counterblaste to Tobacco"; which it may not be improper here to notice, particularly as it evinces in a very great degree, the strong prejudice that he entertained in relation to its use. In this production, he observes, that 'it is a custome loathsome to the eye, hateful to the nose, harmful to the braine, dangerous to the lungs, and the black stinking fume thereof, nearest resembling the horrid stigian smoake of the pit that is bottomless." In 1664, Pope Urban, the Seventh, published a decree,

In the variety of forms in which this substance may be exhibited, it cannot but be acknowledged a remedy of no inferior activity; and in the hands of the prudent physician, may undoubtedly be prescribed with advantage. It is, however, seldom resorted to in practice, unless it is under such circumstances as require the most prompt and effectual relief. The infusion, and sometimes the smoke, is consequently injected into the *rectum*, with a view to produce the necessary muscular relaxation, to enable the operator to reduce with the more facility, the protruded parts in the incarcerated hernia. Its use in this way is not unfrequently attended with the happiest results. The injection of the smoke is certainly the least objectional, and upon the whole, is attended with less serious consequences, when carelessly administered. Its beneficial effects, when exhibited in either of the above forms, and employed in the manner just described, have been witnessed in removing constipation, depending on a constricted state of the intestinal canal.*

There is another form in which tobacco is employed, which consists, in applying the leaves, that have been

which went to excommunicate every individual that took snuff in the church. In the year 1690, Pope Innocent, the Twelfth, appears to have had strong objections to its use likewise, for he had every person turned out of the church of St. Peter at Rome, that were found taking of snuff or chewing of tobacco. Many other singular regulations were entered into about this period.

*From the analysis that has been made of tobacco, it appears to contain, mucilage, albumen, gluten, extractive, a bitter principle,

previously bruised and moisened with vinegar to the abdominal region. The worthy Professor, B. S. Barton, who has undoubtedly viewed its efficacy in this way, observes, "that in consequence of this application, worms are often discharged after powerful anthelmintics have been exhibited in vain." This application will also be found to excite *emesis*, when the most prompt emetics have proved ineffectual, and is consequently used, when large doses of laudanum have been taken, with the intention of destroying life.

The ointment prepared from the leaves, is said to have been found useful in *Psora*, *Tinea Capitis*, and in other cutaneous affections. Much care and attention should be exercised in its use, from the great prostration of strength that even succeeds it external application.

Datura Stramonium,* Thorn Apple, *Pent. Monogynia*, *Herba et Semina.*

This plant may be seen growing in the summer months, in almost every section of the United States—It is an inhabitant generally of barns, dunghills, and other fertile spots, and is recognized by the common and local appellations of James-town weed, Stink-weed,

an essential oil, nitrate of potass, and a peculiar principle that has been named Nicotin, in which its active properties are supposed to reside. The oil of tobacco also possesses much activity. This as well as the Nicotin, is capable of producing fatal consequences.

*This is the *Solanum Maniacum* of Dioscorides; the *Stramonium Spinosum* of Gerard; and the *Solanum Fœtidum of Baupin.*

Henbane, &c. The Stramonium is justly considered as ranking with the more efficient narcotic poisons; and instances very frequently occur among children and others, of an alarming nature, from swallowing of the leaves, flowers or seed. The cases of three British soldiers are recorded, who it appears ate of it, for the *Chenopodium Album*, one of which it is said, became furious and ran about like a madman; a second is represented to have died of *Tetanus*; but the fate of the third person was not remembered.

A very singular effect, as having been produced by this plant, upon a party of British soldiers, is related by Beverly in his history of Virginia. These soldiers who ate of it for boiled greens, exhibited a most odd train of gesticulations. "One," says he, "would blow up a feather in the air, another would dart straws at it with much fury, and another stark naked, was sitting up in a corner like a monkey, grinning and making mouths at them; a fourth would fondly kiss and paw his companions, and sneer in their faces, with a countenance more antic than any *Dutch* droll. In this frantic condition they were confined, least they should in their folly, destroy themselves, though it was observed, that their actions were full of innocence and good nature. Indeed, they were not" he further observes, "very cleanly, for they would have wallowed in their own excrements if they had not have been prevented. A thousand such simple tricks they played, and after eleven

days, returned to themselves again, not remembering any thing which had passed."

From the experiments that I have made upon the stramonium, I am strongly induced to believe, that its active principle cannot be destroyed by long boiling; and that *the essential oil* possesses none of the deleterious powers that reside in the other parts of the plant. A few years ago, I placed in an alembick, a large portion of the recent plant, upon which I poured a sufficient quantity of diluted alcohol, to enable me to procure, by distillation, one gallon of the spirits of wine in a highly saturated state, with its volatile principle. This possessed a highly offensive and mephetic odour, and a disagreeable nauseous taste. Of this preparation I took several times, as large a quantity as half an ounce, having however, previously commenced with a very small portion, without its affecting my pulse in the least sensible manner, or of its producing in the most trifling degree, any unpleasant feeling whatever. The extract that was prepared from the plant, after its having been submitted to the above process, as well as the plant itself, possessed as much activity, as that which had not been made the subject of investigation.*

But to revert more particularly to the operative qual-

*The chemical composition of Stramonium, is that of gum, resin, carbonate of amonia; and according to Mr. Brande, an alkaline element of activity, which has been named *Daturia*, which exists in native combination with malic acid.

ities of the Datura Stramonium, on the human system, and the diseases in which it appears to have been successfully employed, it may, I conceive with great propriety be remarked, that but few of our indigenous vegetable will be found, upon strict examination, to be better adapted to a greater variety of forms of diseases, in which the administration of Narcotics are indicated. In some affections, it cannot but be preferred to opium, particularly in Chronick Rheumatism, Sciatica and Tic Doloreux.

Baron Storck, of Vienna, is justly entitled to the honour of having first introduced this article into practice. He recommended its use in *Mania*, *Epilepsy*, convulsive, and other affections. Many physicians have subsequently directed its internal exhibition in similar diseases, with benefit. It has however proved ineffectual in the hands of some others; but in those cases its failure may not have been more frequent than that which at times succeeds the administration of the more potent remedies included in the *Materia Medica.*

Alexander Marcet, M. D. Physician of Guy's Hospital, London, has communicated his experience of the efficacy of the *Stramonium**. From his observations in relation to its effects, it appears, that it had relieved acute pains of different kinds, more completely than any other remediate agent included in the class of narcotics. The following are the cases in which he gave it with the success that accompanied its administration. "In

* Vid. Medico—Chirurgical Translations, Volume 7, for 1826.

four cases of *Sciatica*, decided benefit was obtained.—The efficacy of the medicine was still more strongly marked in two cases of *Sciatica* combined with syphilitic pains. It failed in two cases of diseased hip-joint. It produced considerable relief of pain in a case of supposed disease of the spine, followed by paraplegia; and likewise in one of cancer of the breast. It allayed materially the pain occasioned by an acute uterine disease. It was of great and repeated utility in a case of Tic Doloreux, its utility in a second case of the same description was very doubtful, and in a third it entirely failed."

Several writers have subsequently spoken favourably of the success that attended the use of this article in *Sciatica*, *Tic Douloureux*, &c. Doctor Eberle remarks, that he has "used it in three cases of Sciatica within a year past, and in every instance with the most decided advantage."†

The Doctor has also used it with advantage, in a case of *Tic Douloureux*, that had resisted a variety of the usual remedies, under the direction of another physician. In relation to this case, he says, that he "prescribed the extract of Stramonium, a grain of which was to be taken every four hours; she commenced with this in the evening; towards the morning she had a considerable interval of comparative ease, and slept some. She continued the medicine during the succeeding day, and experienced less pain than she had

†Materia Medica and Therapeutics, vol. 2, page 82.

done for eight days before. After the fourth dose was taken, she felt some vertigo; she was now directed to take the medicine only every six hours. During the second night she slept a good deal, and in the morning was almost entirely free from pain. The medicine was continued; on the third night, she was not disturbed by her complaint, and continued well."*

This remedy has also been employed by Professor Bigelow, "in a case of Tic Doloureux of long standing," in which he gave it "in as large doses as the stomach would bear," and in which it "afforded decided relief." He also remarks, that "several practitioners have spoken to me of its efficacy in this formidable disease."† From my own experience, I am unable to say any thing of a satisfactory nature on the subject of its utility in this distressing malady. I have only given it in one case, in which it proved altogether unsuccessful. It appears however, to be adapted more particularly to the treatment of local affections unattended and unaccompanied with general febrile excitement, under which circumstance, it is undoubtedly admirably calculated to allay morbid irritation.

As a medicine of great utility, the stramonium has proved itself equally competent to the removal of epilepsy. It appears to have been used in "not less than a dozen cases of this disease," by Doctor E. Ives, of New Haven, "in most of which with perfect success. Some

*American Medical Recorder, vol. 5, page 658.

†American Medical Botany, vol. 1, page 28.

of these were adults, and from their long duration, were apparently of the most hopeless kind."*

In chronick rheumatism, the Datura Stramonium, may justly be ranked among the more prompt and efficient articles of the Materia Medica, that have generally been resorted to for its removal. In this disease, I believe, it is less liable to disappoint, the expectations of the practitioner, than perhaps in any other; I have directed its use both internally and externally, in a number of cases, that have from time to time, claimed my professional consideration, with the happiest and most unequivocal success. For a communication upon which subject, I refer the reader to the American Medical Recorder.

Doctor Eberle supposes it to be "the most efficacious remedy we possess," in rheumatic cases, "which are attended by an irritable, quick, but weak pulse, with swelled joints, and unattended by any great pain, unless on being moved."†

The Stramonium has also been resorted to, as an external application, in the form of an ointment and tincture, in a number of cases of a local nature. The former preparation, has been recommended in burns, hœmorrhoids, psora, and other cutaneous affections, and it is said with good effects.

*Vid. Paris's Pharmacolagia, with additions and illustrations by Ansel W. Ives, M. D, Vol. 2, page 130.

†Mat. Medica and Therapeutics.

The leaves and root when smoked, have been found useful in *Asthma;* but perhaps, they possess no advantage over tobacco, as a remedy in this way.

The preparations that are generally made use of are the powdered leaves and seed, the inspisated expressed juice of the plant, and extract. The dose of the three former is, a grain twice a day; and of the latter, from an eighth to a quarter of a grain, to be increased gradually.

The extract should be prepared in the following manner. Fresh seed in powder, one pound; to be boiled in three gallons of water down to one; the decoction is then to be strained. The powdered seed is again to be boiled in a gallon more of fresh water, down to two quarts, and strained as before, and mixed with the former decoction, which is to stand twelve for hours, and is then to be drawn off free from fecula and oil, and evaporated to a proper consistence; the latter part of the evaporation to be performed in the water bath. The quantity obtained, is from an ounce and a half to two ounces of extract. There are two modes of preparing the extract, by filtering the detoction, and by dissolving the extract. The extract prepared in the above manner, is considerably more powerful, than it is when prepared in the common way.

Datura Tatula.

This plant, which is only a variety of the *Stramonium*, may be known by its pale green coloured stem,

and its flowers, which are white. It is generally found growing with the *Datura Stramonium*, but seldom in as great abundance. It possesses all the active and useful properties of this plant, and may be used in the diseases in which it has been so highly recommended. The dose is the same.

Solanum Dulcamara, Bitter Sweet, Pent. Monog, Stipites, Autumno Collectæ.

This plant, which is often called Woody Nightshade, is indigenous to this country in common with Europe.

To this genus belong the common Potatoe, the Black Nightshade, the Jerusalem Cherry, the Tomato and the Egg Plant. The Carolla, being rotate, is the cause of their being intimately united, sufficiently so, to constitute them species of the same genus. It is, however, more of a climbing plant than any of the other species. The leaves are "petioled, ovate, acute, entire furnished at the base with two appendages, which give them somewhat of a hastate form." The lower and superior leaves being not unfrequently without these appendages.

This article possesses in some degree, diuretic powers. It has, however, been introduced into the present class from the circumstance of its having been noticed as possessing narcotic properties by Chapman, Eberle, and others.

The stipites or younger branches, are the parts that are generally employed for medicinal purposes. These

should be collected in the fall, when the leaves are about falling off.

The diseases in which the *Dulcamara* is recommended by different writers, are very numerous. Bergius confined its use principally to the treatment of *rheumatism, retentio mensium, et lochiorum.* Cullen speaks of its good effects in the cure of rheumatism, that he had witnessed at times, to have resulted from its administration; but it sometimes proved rather unsuccessful, which circumstance may justly be attributed to the season of theyear in which it was procured, as well as in some measure, to the soil in which it grew.

In the various forms in which this remedy has been exhibited, it cannot but be supposed an article of no inferior degree actively, particularly in cutaneous affections, in which it is more extensively used than in any other disease by modern practitioners. Willan and Bateman, both speak favourably of it, especially in *Lepra.* The experience of several physicians, have subsequently went to establish the correctness of their observations in relation to its efficacy in this unpleasant malady. Professor Bigelow states, that he has "employed the Bitter Sweet, both in substance and decoction, in a number of cutaneous affections" He furthermore remarks, that "it appears to be a valuable auxiliary to mercury in the treatment of syphilitic eruptions;" and that he has "known herpetic eruptions to yield to its internal and external use."*

*Vid. American Medical Botany, Vol. 1, part 2, page 174.

This article is generally prescribed in strong infu sion, or decoction, of which the dose is, from an ounce to an ounce and a half, frequently repeated, and gradually increased until between a pint and a quart is consumed daily, either of which may be used as an external application as a wash.

I know nothing of its efficacy from experience, but from the highly respectable authorities that have spoken favourably of its remediate operation, I am induced to conceive it a remedy, justly meriting the attention of the members of the profession.

Cicuta Maculata, American Hemlock, *Penland, Digynia, Folio Siccata et Semina.*

This plant, which is common in many parts of the United States, inhabits low marshy situations, and may be found growing in the vicinity of Creeks, Rivulets, &c.

The present article, not having been introduced into the works of many of the late writers, who have included some of our most active plants, has induced me to give the following description of its botanical character, which has been given by Professor Bigelow in his Medical Botany; and which I conceive as exhibiting in a very striking manner, the various parts of which this production is composed.

"The stem is smooth, branched at top, hollow, jointed, striated, and commonly of a purple colour, except when the plant grows in the shade, in which case

it is green. The leaves are compound, the largest being about three times pinnate, the uppermost only ternate. Most of the petioles are furnished with long obtuse stipules, which clasp the stem with their base. Leafets oblong, acuminate, serrate, the serratures very acute or mucronated. The veins end in the notches, and not at the points of the serratures. The flowers grow in umbels of a middling size, without a general involucre The partial umbels are furnished with involucres of very short, narrow, acute leafets. The distinctness or separation of these umbels characterize this plant at a distance among other plants of its kind, whose umbels are more crowded. Calix of fine very minute segiments; Petals fine, white, obovate, with inflected points."

The root as well as every other part of this plant, possesses medicinal properties, very analogous to the *Cicuta*, or *Conium Maculatum* of Linnæus, but in a greater degree. With respect to the effects that succeed its use in large doses, they are similar to those of some of the other poisonous substances; such as nausea, vomiting, vertigo, cardialgia, anxiety, convulsions, coma and death. The root is represented to have been dug up and eaten by children, for the sweet flag root in several instances, in which it was followed by the most alarming symptoms, and sometimes even by death.

From the variety of affections in which the *Conium Maculatum* has been successfully employed, and from the circumstance of the great similarity that exists between this and the *Cicuta Maculata*, it may be reason-

ably conjectured to be equally adapted to the same cases and diseases with the former article.

Doctor Alexander Byrenheidt, member of the Medical and Chirurgical Faculty of Maryland, shew me a large quantity of it that he had procured himself, a considerable portion of which, he stated he had made use of in several cases in which he had previously prescribed the Conium Maculatum, and with equally beneficial and salutary results. He indeed gave it the preference.

As a remedy possessing much activity, it is undoubtedly worthy of a few trials, with a view to the establishment of its utility in such cases in which it may be calculated to afford relief.

The dose is rather smaller than that of the Conium Maculatum. It should be carefully employed for the reasons above assigned.

The proper time for gathering the plant, is when the seed have nearly arrived at maturity. It should be carefully dried in the shade.

Rhus Toxicodendron, Poison Oak, Pentand, Trigynia, Folia.

This shrub is common to almost every part of the United States, and is recognized by the appellations of Swamp Sumach, Poison Wood, &c. It is a low shrubby stalk, the leaves of which are trifoliate, lobate, entire, smooth, and occasionally heart shaped. The flowers, which are of an herbaceous colour, are small,

in loose panicles, and emanate from the sides of the foot stalks.

In relation to the success with which this article may be administered, in the diseases in which narcotics are recommended, but little of a satisfactory nature can at present be said. It has not of late attracted a sufficient degree of notice, to confirm its character as a remediate application even in any one disease. It is seldom made use of by our practitioners, with a view to the alleviation or removal of any affection. From what has been said, it appears, that Doctor Alderson, of Hull, in England, is the gentleman to which the honour is due, of having first used it. This was, however, done in imitation of the experiments of M. Fresnoi, who had previously made use of the *Rhus Radicans*. Doctor Alderson gave it in four cases, it is stated, of paralysis, in the dose of half a grain or a grain, three times a day; and all his patients recovered to a certain degree, the use of their limbs.—The first symptom of amendment, was that of an unpleasant sensation of prickling in the affected parts. In the hands of some others, it was found necessary to discontinue its use from this circumstance. The prickling sensation that seems to be a constant attendant on its exhibition, is certainly a great objection to its use, and more particularly, when a number of other remedies, equally as efficacious in this distressing malady, may be prescribed without their being accompanied with this unpleasant feeling—Upon the whole, I conceive it might be very readily dispensed with altogether, in as much as the addition of new remedies to the

Materia Medica of this kind, will never enrich it in matter worthy of attention.

A tincture of the Rhus Toxicodendron, has been directed in the dose of from four to six drops in spasmodic affections of the stomach and bowels. Of its operation in this way, I know nothing.

Rhus Radicans, Poison Vine. *Pent Trigy Folia.*

The present species of Rhus, which is very analogous in its medicinal character, to the one just noticed, supports itself on the bodies with which it comes into contact. From this circumstance, it may generally be recognized from the other articles belonging to this genus.

In relation to its sensible and chemical character, Professor Bigelow says, "the leaves and bark are astringent to the taste, which quality appears to be occasioned by gallic acid, rather than tannin." He furthermore observes, "the infusion and decoction become black on the addition of salts of iron, but discover hardly any sensibility to gelatin."

The article under consideration has not been used often enough in practice, to warrant its confirmation as a remedy, of either much utility or advantage. It has, however, been employed perhaps more frequently by M. Fresnoi, than any other gentleman His reports in relation to its exhibition, under his direction, are rather favourable. The affections in which he gave it, were those of paralysis and herpetic eruptions. It may, I

think, justly be considered, not only an uncertain, but rather a dangerous remedy.

It may be given in half grain doses of the powdered leaves, and the necessary attention should also be paid to its effects, least any unpleasant consequences should result from its administration.

Rhus Vernix, Poison Sumach, Pent, Trig, Folia,

The Rhus Vernix, is considered more poisonous than any of the species belonging to the genus Rhus. As a narcotic it has been introduced into the present class, although it has never been exhibited, with a view to the alleviation of the diseases incident to humanity. Future experiments may develope its true character; and it may perhaps be found to possess some valuable property as a remedy in diseases.

Gaultheria Procumbens, Mountain Tea, Decandria, Monog, Folia.*

In consequence of the anodyne properties that this creeping plant possesses, it has been introduced into this class of remediate agents. It is an inhabitant of shady situations, and delights in a poor and sandy soil. It is an evergreen plant, and consequently, with the different vegetables of the kind, appears to admit of slow perspiration, and rapid absorption; by which means it obtains from the dews and rains, the necessary

*It is also known by the common and local appellation of Groose-berry, Berried-tea, Spice-berry, Tea-berry, Ground-Ivy, Winter-green, Coale-berry, Patridge-berry, &c.

supply of nutriment to faciliate its growth; that the majority of the articles comprised in the vegetable kingdom, receive through the medium of their roots. This is the case also with the chimaphila umbellata, and maculata, and many others.

Its taste is somwhat aromatic and sweet, accompanied with a very great degree of astringency. Both its sensible and active properties, reside in the plant and the volatile oil it contains. The peasantry in some places, are in the habit of preparing an infusion of the leaves, which is drank of as tea, in order to revive them after having undergone considerable corporeal exertion. The berries may be eaten with impunity, although few persons suppose them to be either esculent or delicious.*

Kalmia Latifolia, Broad leaved Laurel. *Decand, Monog, Folia.*

This shrub, which is common in many parts of the United States, is recognized also by the name of Calico-tree. It is supposed to contain the properties that characterize those agents, that are properly denominated Narcotics. The leaves are destructive to certain animals. These have been recommended in intermittents, and in Tinea Capitis; but I am inclined to conclude them to be incompetent to the removal of either of these affections. The character of this shrub in an operative

*The introduction of the Gaultheria Procumbus into this class, has been done with a view of inviting the attention of the members of the profession to the consideration of its further character as a plant, possessing in some degree medicinal virtues.

point of consideration, I think, should be viewed as a very great objection to its use in ordinary cases, and particularly when the Materia Medica presents a number of articles that are more adequate to the removal of the diseases in which its internal exhibition has perhaps, in a few instances only, proved beneficial. A decoction and ointment prepared from the leaves, is reported to have been successfully employed in cutaneous affections, by washing the affected parts, or by applying the unguent. Care should, however, be taken, that the quantum made use of should not be in such proportions as to produce vertigo, or any other unpleasant symptom.

Kalmia Augustifolia, Dwarf-laurel, *Decand Monog Folia.*

This species of Kalmia agrees in its medicinal virtues with the one just noticed; and will be found applicable to the same cases of diseases.

Actæd Racemosa, Rich-weed,* *Polyand Monog, Folia.*

In consequence of this plant having quite lately claimed the attention of the medical publick, on the account of its narcotic operation, I have included it in the present list of remedies. From my own experience of its utility, which is very limited, I am not able to add any thing in support of its virtues in this way. Doctor T. S. Gardner, who has communicated the result of his ex-

*It is also called Black Snake-root, Rattle-weed, Squaw-root, &c.

perience, (through the medium of the Medical Recorder, vol. 6, page 610,) in relation to its efficacy in Phthisis Pulmonalis, observes, "I can ascribe the degree of health, which I enjoy at present, to nothing but the use of this medicine, aided by suitable regimen;" and as to the effect it produces on the human system, as an article of the Materia Medica, he says, "when exhibited in a full dose, it prostrates in a distressing degree, producing nausea, vertigo, pains of the extremities, anxiety, dilitation of pupil, quick small pulse, with universal restlessness and uneasiness." From the happy result of its use in his own case, as also one of the same disease, which claimed his attention, the members of the profession have, I think, a sufficient reason to induce them to prosecute the necessary experiments, in order to confirm, if possible, the character that has lately been bestowed on it, as an article of some value in Phthisis Pulmonalis. It is a plant, that may be seen in almost every section of our country, in which a rich and prolifick soil is found. As a common drink, an ounce of the leaves infused in a pint of boiling water, will be of a sufficient strength.

Humulus Lupulus, Common Hop, *Dioecia, Pentandria, Stroboli Siccati.*

The hop justly ranks among the remedies that belong to the class of narcotics. And although it is employed in great quantities as a principle ingredient in

malt liquors; it may be exhibited with good effects as a medicine. The flowers are aromatic, bitter and astringent: an infusion of which I have found useful in the pains which not unfrequently succeed parturition; in the dose of a teacupful every hour until relief is afforded. Professor Chapman observes, that "as an anodyne, it may be substituted for opium, when the latter, from idiosyncrasy or other causes does not suit the case."* It is reported to have been used with advantage in cases of articular rheumatism, by Dr. Maton, who gave it in the form of tincture and extract. Under his direction it seems to have produced rather a constipating effect on the bowels. He is disposed to conclude the pulse is lessened in point of frequency and increased in firmness by its administration. From the experiments of Dr. De Roches, it produced sleep in rheumatic, syphilitic and pectoral affections. The hop may be given in the form of infusion, tincture, and substance, without being very nice as to the precise quantity taken as a dose.

It will be noticed hereafter under the class of tonics.

Veratrum Viride, American Hellebore, *Polygam. Monœcia*, Radix.

The Veratrum Viride, is an inhabitant exclusively of swamps and meadows. It may readily be distin-

* Vid,—Elements of Therapeutics and Materia Medica, Vol. 2—page 231.

guished from every other plant by its inferior leaves being remarkably large, from six to seven inches in length: these are oval, accuminate, pubescent, and strongly plaited and nerved; the lower part of the edges of which meet around the stem.

From the experiments that have been made, with a view of discovering its medicinal properties, it has been concluded, and no doubt very correctly, to be nearly allied to the Veratrum Album, which grows spontaneously in Switzerland and the mountainous parts of Germany. The root, when taken in the dose of from four to six grains, and particularly if it be increased, appears to affect the functions of the brain and nervous system in an eminent degree; producing vertigo, affecting vision, and likewise, in a considerable measure a diminution of the vital powers; which is accompanied by a proportionate relaxation of the muscular system; consequently the happy effects that have succeeded the exhibition of this article is altogether attributable to the narcotic power it displays. This plant, with many others, are hardly known by physicians, in as much as the medical botany of this country is unfortunately much neglected. Indeed some of our most valuable remediate vegetables are seldom employed by, perhaps, more than three or four practitioners in a hundred. Professor Bigdow, to whom the medical public is justly indebted for the zeal he has exhibited in the improvement of this important branch of professional knowledge; and who appears to have paid no inconsiderable attention to

its operative agency, in conjunction with its application to diseases, says he found it useful in arresting "the paroxyoms of gout, and" in giving "relief in some unyielding cases of protracted rheumatism." An ointment, prepared by simmering the contused root in lard, is stated to have been productive of some good effects as an external application in Tinea Capitis and other cutaneous affections. From my own experience, I am unable to say any thing in attestation of its utility, having never used it. But there is no doubt, from the activity it possesses, but what its true character, when fully developed, will be found to be such as to entitle it to a conspicuous place in the Materia Medica.

CHAPTER V.

Antispasmodics.

Previous to noticing the few of our native plants, that properly belong to this class, I would remark, that no inconsiderable difficulty seems to exist, in relation to forming a correct idea of their modus operandi. The different writers on the Materia Medica have thrown but little light on this subject, in consequence of which circumstance, the Medical public have not as yet been made acquainted with what may hereafter appear to be not only more plausible, but cor-

rect. This will, however, depend much upon the zeal and industry of subsequent cultivators of our profession. The cause that gives rise to the difficulty, may, in a great measure, be attributed to this set of remedies not being as adequate to the removal of spasm, under the various circumstances in which it may occur, as tonics are to restore tone, and invigorate, either the stomach, or the general system, when attacked with debility. It is a well known fact, which must have attracted the attention of every intelligent physician, that spasm is connected with various states of the system: and also, that when it is induced by certain causes, its removal must be attempted by resorting to other remedies, quite separate and distinct from antispasmodics in their operation. For instance, do we not unfrequently see cases of hysteria connected with a full habit, in which the use of the lancet, carried to a considerable extent, affords the most prompt and permanent relief; particularly when succeeded by the use of cathartics.—In such cases as this, the inutility of antispasmodics are not only evident; but their administration is altogether contra-indicated. And so it is in all cases in which spasm occurs, requiring depletion for its removal. Nevertheless, under the circumstances just mentioned, the articles belonging to this class of remediate agents, may sometimes be successfully employed after the pulse has been lessened and the system reduced to a state in which their use will be admissible. This is, however, not often necessary, for copious venesection, in

conjunction with other means calculated to produce analogous effects, will, in a generality of cases, be sufficient.

Again, how often is the physician called to visit and prescribe, in cases of children who labour under the most violent and distressing spasmodic affection of almost every muscle of the body, which may generally be removed by the use of suitable cathartic medicines, in consequence of its depending on, and being excited, by a collection of vitiated secretions contained in the intestinal canal.

Spasm frequently exists in an opposite state of the system, likewise I mean debility. The practice that should be adopted, with a view to its removal, in this case, and which will be found the most successful in the generality of instances, is that which consists in the use of tonics in conjunction with stimulants. It is true, that antispasmodics will here often afford temporary relief; but they may be administered continually without imparting that tone, that is essentially necessary to overcome it.—Hence the propriety of tonics; and the folly of resorting to antispasmodic remediate agents.

A number of cases might be adduced in attestation of the uselessness of antispasmodics; and indeed cases in which their use would be attended by the most serious consequences. But this circumstance is only attributable to an over excitement, in connexion with a full habit; or rather where spasm is induced by plethoria; a collection of vitiated secretions in the intestinal ca-

nal, or when it is the consequence of an impaired digestive function, or gastric irritation. In this latter case, an emetic may be found beneficial, succeeded by tonic remedies. These observations are not intended to convey an idea, that there are no cases in which this class of medicines may be used with advantage; but merely to prove that they are not competent to overcome spasm in every instance in which it occurs; in which respect they differ from tonics, that may be used as a general rule in every case of debility. They are also made to show, the probability of the want of a correct knowledge of their modus operandi depending in a great measure on these facts. But to proceed a little further: Independent, however, of what has been said, there are circumstances in which these medicines are the only ones that may be exhibited; and in which they will be found fully adequate, not only to alleviate, but competent to the complete removal of spasm, without being given in conjunction with any other article. The cases to which I allude, are such as are produced by a peculiar state of the nervous system, and unconnected with any of the preceding causes. But to proceed, in relation to the modus operandi of this set of remedies; I would observe, that it is highly probable, that their beneficial effects are produced, in removing either local or general spasm, by an impression they induce on the nervous system, which, no doubt, influences and controls, in an eminent degree, the functions of the muscular system. And it would appear very reasonable, that whenever a spasmodic action of the muscles, of a part, or of the whole

body, become evident, that it is altogether to be ascribed to some derangement in the nerves that supply the part concerned in the spasm. Hence we may infer, that antispasmodics do good by tranquilizing the nervous system, and consequently removing irregular muscular contraction. But the great difficulty consists in knowing how this is accomplished, or what kind of impression is made upon the nerves by these medicines. This part of the subject is rather obscure, and an extensive opportunity is consequently afforded, for research and discovery.

However, although we can only form an imperfect idea of the operation of antispasmodics, it does not prevent us from making a proper application of them. For in a practical point of consideration, it is enough to know when their administration is indicated.*

*A certain writer has given the following description of the effects which succeed the use of this set ofremedies—They cannot, however, it is presumed, "counteract and remove" the various causes upon which irregular contractions depend. This, will no doubt appear correct from what has been already observed, upon the subject of the causes which frequently induce irregular muscular action, as well as the plans which should necessarily be adopted for their removal.—He remarks, "By these are meant, whatever has a power of allaying inordinate motions in the system, particularly those involuntary contractions which take place in muscles naturally subject to the command of the will; they counteract and remove various causes exciting contractions; they diminish the influence of the nervous energy in the parts spasmodically affected. The changes induced in the system, from the primary effects of antispasmodics, are, the restoration of the proper balance of the nervous energy in different parts of the

The following are the articles belonging to this class. It is much to be regretted, that our present knowledge does not acquaint us with a more respectable list.

Antispasmodics.

Symplocarpus Fœtida—Skunk Cabbage.
Symplocarpus Angustispatha—Narrow Spathed Skunk Cabbage.
Chenopodium Anthelminticum—Jerusalem Oak.
Scutellaria Lateriflora—Scullcap.

Symplocarpus Fœtida, Skunk Cabbage. Tetrand. Monogy. Radix et sem.

This is the Arum Americanum of Catesby; the Pothos fœtida of Michaux; the Dracontium fœtidum of Linnæus and Mildenow; the Pothos Putorii and the Calla Aquatilis of others. It is also known by a variety of synonyma; such as Swamp Cabbage, Fœtid Pothos, Skunk-weed, Itch-weed, Polecat-weed, Poke, Hellebore, Irish Cabbage, Polecat-collard, Cow collard, Stinkweed, &c.

This article has, within a few years, been supposed to possess the characteristick property of Antispasmodics; and as such, it is recommended by some of the most respectable writers on the Materia Medica. My

body, the restoration of the due influence of the will, and the restoration of the natural state of tention to the muscles.

knowledge of its utility is very limited. But from the high professional standing of those that speak in support of its efficacy in the spasmodic affections in which they have used it, the medical public have every reason to conclude it to be justly entitled to a conspicuous situation in the writings of all authors on this department of medicine. Dr. Thatcher, in speaking of the diseases in which its beneficial results have been noticed, observes, that "in those spasmodic affections of the abdominical muscles during parturition, or after delivery, this root has proved an effectual remedy." He likewise remarks, that "in chronic rheumatism, and eratic pains of a spasmodic nature, it often performs a cure, or affords essential relief; and that it has in some instances of epilepsy, suspended the fits, and greatly alleviated the symptoms."*

Dr. Eberle considers this article useful in the attacks of spasmodic asthma; and he states that "in several instances of this disease" he "derived very considerable advantage from the employment of this remedy.†" He furthermore observes, that "the powdered root, in the dose of from thirty to fifty grains, is to be given during the paroxism and repeated during the urgency or obstinacy of symptoms. The medicine ought to be continued for some time after the paroxism has entirely subsided."

*American Dispensatory, page 323.

†Materia Medica and Therapeutics, Vol. 2—page 118, second edition.

The Symplocarpus Fœtida, is recommended by several physicians of standing in spasmodic coughs, pertusis, hysteria, &c. as having done good. It is sometimes directed to be exhibited in the form of syrup; but this is a very objectionable preparation in consequence of the acrid constituent in which its active properties reside being readily dissipated by heat; a decoction, or even infusion, for the same reason, greatly lessens and impairs its virtues. Schoepf has also noticed this plant as "incidens, calefaciens, expectoraus," and as being useful in phthisical coughs. The root is the part that seems to have attracted his attention. The seed possess more activity than the root, and may undoubtedly be exhibited in the same cases with better advantage.

Symplocarpus Angustispatha. Narrow spathed Skunk Cabbage, Tetrand. Monog. Rad. et sem.

From the remark of Professor W. P. C. Bartow, in the second number of his valuable and highly useful Vegetable Materia Medica of the United States, it appears that this plant is only a variety of the species just noticed. It differs in relation to this article in its general aspect; in its being rather more slender, and the root somewhat smaller. The leaves likewise assume more of a purplish colour. In its medicinal qualities it agrees in every respect with the Symplo carpus Fœtida; and may be given in the same doses.

Chenopodium Anthelminticum,* Jerusalem Oak, Pertand. Digynia. Herba, Sem. et ollum.

I know nothing of the antispasmodic powers of this plant. It is reported to possess some activity in this way. Dr. Ansal W. Ives, says it "possesses some value as an antispasmodic, and as a tolerable good substitute for assafœtida.†" The dose will be noticed hereafter under the head of Anthelmeutics, where it more properly, belongs.

Scutellaria, Lateriflora, Scull-cap, *Didynanica, Gymnospermia, Herba.*

An insertion of this article into the present list of remedies, has been made in consequence of my having understood from several respectable sources, that it possessed some antispasmodic powers, of this circumstance I know nothing: and I think it rather doubtful if it displays this effect in its operation in any very conspicuous degree.

*This plant has sometimes been called *Chenopodium* Botrys.—This is indeed the Linnæan name for this vegetable production. It has also been noticed by the appellations of *Botry's Vulgaris, Atriplex Odorates, Atriplex Suarcoteus, &c.*

†His Edition of Paris's Pharmacologia, vol. 2, page 100.

CHAPTER VI.

Tonics.

The articles that have received the appellation of tonics, are those substances, the principal operation of which consists in their invigorating and imparting tone to the system, when debilitated from disease, without, in any very perceptible degree, increasing the force and frequency of the arterial action, or the heat of the body upon their immediate exhibition. But when their use is continued for several days, under circumstances in which they may be indicated, they gradually promote digestion, and consequently, increase the appetite for food, which is succeeded by a proportionate renovation of strength, and a corresponding increase in the force and regularity of the pulse. Tonics, no doubt, produce their salutary effects, by the impression they induce on the stomach, which is communicated through the medium of the nervous to the general system. They often produce their effects, also, by improving the digestive function, and consequently, increasing the quantity as well as the healthy condition of the chyle; a deficiency in both of which, is no doubt the cause, often, of debility. In both of these ways, I think, tonics are the most likely to operate to the exclusion of the idea of their entering into the sanquiferous system.

Although tonics comprise the third article in the first division of general stimulants, the action they exert is not succeeded by that degree of relaxation or indirect

debility, that is connected with the administration of the remediate agents of the Materia Medica, the diffusibility of which is displayed in a very short period after they are taken. In confirmation of this generally received sentiment, I would remark, that it is a fact that must have claimed the attention of any intelligent and observing practitioner, that such medicines as, upon their immediate exhibition, produce a very great excitement; that this condition of the system is always followed by a proportionate degree of languor and debility. Hence it may be reasonably inferred, although tonics are, strictly speaking, stimulant, that the cause of their not inducing debility, is altogether to be ascribed to the circumstance of their exhibition not being succeeded by any perceptible arterial excitement. They, therefore, produce a moderate stimulant impression, which, when kept up as long as the state of the cases in which they are indicated require, impart a certain degree of tone to the system, until the vital energies become increased, when their use may be withdrawn. In doing this, it is not unlikely they operate in both of the ways just described. Tonics are consequently, admirably adapted to the removal of the generality of diseases, depending upon a want of nervous energy, either of the stomach or general system. It will be unnecessary to notice their therapeutic operation in the various cases in which their applicability may be productive of good effects; as this part of the subject more properly belongs to a notice of the different remedies that are comprised in the present class, with the peculiar states of the

system in which they have been successfully employed.

It was an opinion of the distinguished Doctor Cullen, that the tonic power of substances was inseparably connected with the bitter principal. This idea may be correct in relation to some vegetables; but, as a general rule, it cannot stand the test of investigation. For aromatics act as tonics, although this power is perhaps not so permanently exerted upon the system as by some others, in as much as their operation is more diffusible and transient; yet they possess no bitterness. Opium and the *Digitalis Purpurea*, with several other plants that might be introduced, are very bitter, and their operation is well known to differ very materially from the set of medical substances belonging to this class. Some of the mineral preparations are also powerful tonics, which do not produce the least impression of bitterness when taken into the mouth. Therefore, the tonic power that certain articles exert on the system, cannot, consistently with reason and experience, be attributed, under every circumstance, to a bitter principle. It must nevertheless be acknowledged, that the best vegetable tonics, are those that are purely bitter; and that these plants are calculated to make a more permanent and lasting impression than those of the aromatic kind, which are more diffusible in their action, and consequently less invigorating, and, as the celebrated Murray remarks, "are therefore rather employed as temporary stimulants, to obviate debility of the digestive organs, or as promoting the action of bitters."

Our present, although very limited, knowledge of the medical botany of our country, acquaints us with a number of tonics, many of which are doubtless entitled to as much attention as some in use among us, that are the production of foreign countries. We are indeed greatly blessed with some invaluable articles of this kind, that are undoubtedly entitled to the attention and consideration of the American medical public. These will be noticed in their proper order of arrangement.

Tonics.

Cunila Mariana,	Dittany,
Cunila Pulegoides,	Pennyroyal,
Cornus Circinata,	Round leaved Dog-wood,
Cornus Florida,	Dog-wood,
Cornus Sericea,	Swamp Dog-wood,
Cornus Panaculata,	Bush Dog-wood,
Frasera Carolinceusis,	Wild Columbo,
Chironia Angularis,	Centory,
Menyanthus Trifoliata,	Buck Bean,
Apocynum Androsomifolium,	Milk-weed,
Gentiana Catesby,	Blue Gentian,
Aralia Nudicaulis,	Wild Sarsaparilla,
Zanthorhiza Apiifolia,	Shrub Yellow root,
Prinos Verticillatus,	Winter-berry,
Acorus Calamus,	Calamus,
Chimaphila Umbellata,	Pippsissewa,

Chimaphila Maculata,	*Spotted leaved* Pippsissewa,
Prunus Virginiana,	Wild Cherry Tree,
Coptis Trifolia,	Gold-Thread,
Magnolia Glauca,	Small Magnolia,
Magnolia Acuminata,	Cucumber Tree,
Magnolia Tripetala,	Umbrella Tree,
Magnolia Grandiflora,	Tulip Tree,
Liriodendron Tulipifera,	American Poplar,
Hydrastis Canadensis,	Yellow Root,
Scutellaria Lateriflora,	Scull cap,
Polygala Rubella,	Bitter Polygala,
Eupatorium Perfoliatum,	Bone-set,
Eupatorium Teucrifolium,	Wild Hoarhound,
Anthemis Cotula,	Wild Chamomile,
Solidago Odora,	Sweet-scented Golden rod,
Aristolochia Serpentaria,	Virginian Snake root,
Aristolochia Sipho,	
Humulus Lupulus,	Common Hop.
Populus Tremula,	Aspiu,
Veratrum Luteum,	Blazing Star.

Cunila Mariana, Dittany, *Diandria, Monogynia, Herba.*

This plant is in no respect inferior to the mentha Viridis, or common Spearmint. It is quite common in various sections of the United States; and is an inhabitant generally of the woods. The whole plant may be employed for medicinal purposes. This possesses some pungency and aromatic odour. Both the

infusion and essential oil may be used with advantage as a stimulant and carminative, with a view to the alleviation of the symptoms that not unfrequently arise from flatulency. I have found it a useful substitute for the Mentha Piperita, when exhibited in conjunction with laudanum in Cholera Morbus. Its utility in the form of a strong infusion and essence I have also noticed in allaying nausea. It is however only, like all the aromatic tonics, more particularly adapted to the treatment of affections of the stomach and bowels, arising from a relaxed or debilitated state.

Cunila Pulegoides, Pennyroyal, *Diana. Monog. Herba.*

As a carminative this article will be found useful. The infusion is mostly employed without regard to the dose.

Cornus Circinata, Round-leaved Dog-wood, Tetrand. Monogynia, Cortex.

This species of Cornus, is found on the sides of hills and mountains, and in the vicinity of the banks of rivers, from Canada to Virginia. The bark, which is the part that is employed for the purposes of medicine, imparts to the taste some degree of astringency, bitterness, and aromatic warmth. This it would seem is nearly allied in its medicinal character to the Cinchona Cordifolia of Mutis, or Yellow bark. It however, possesses rather more astringency and aroma, than this article.

Diarrhæa and dysentery, appear to be the diseases in which it has, as yet, proved itself to be the most

useful; and it can only be advantageously employed in these cases, under the circumstanes in which tonics in conjunction with astringents are indicated. From its sensible properties, it may be reasonably concluded to be adapted to the treatment of that form of remitting and intermitting fevers, connected with debility; or after the inflammatory state has been properly subdued I am unable to say any thing from my own experience, in support of its utility as a medicine.

The powdered bark may be given, in doses of from one to two drachms; and in the same proportion when exhibited either in infusion or decoction.

Cornus Florida, Dog-wood, Tetrand. Monog. Cortex.

This beautiful and highly ornametal tree is quite common in the various parts of our country. In New England, it is known by the name of Box wood. In its sensible qualities, this species of Cornus, is strikingly analogous to the Circinata. Its effects as a medicine have, however, become more generally known, in consequence of which circumstance, it is at present employed to a more considerable extent in the treatment of diseases, than this article.

The Cornus Florida is recommended by many very respectable writers, who speak favourable in support of its utility as a medicinal substance and I think very justly. Professor Bigelow, in noticing its sensible and operative qualities, infers, that it approaches "to the character of the Peruvian bark." And the celebrated Professor Chapman considers it as "closely allied" to

this article in its "sensible and chemical properties." And he morever remarks, "it is presumeable" that it "might be appl.ed to the same extensive set of cases, thongh no such application has hitherto been made"*

This indigenous remedy has been very successfully employed in intermittents, by many physicians of high standing in the profession, who speak in attestation of its efficacy. It has indeed very lately become a fashionable remedy in diseases of this kind, among the country people; many of whom are aware, that it is calculated to effect the bowels when given in its recent state. The late Professor Benjamin Smith Barton observes in relation to its utility, "that it may, with entire safety, be asserted, that as yet, we have not discovered within the United States, any vegetables which have been found so effectually to answer the purpose of the Peruvian bark, in the management of intermittents as the Cornus Florida."† I have directed the internal use of this medicine in many cases of intermittents, with the best effects. I have used it alone, and in conjunction with the Virginia Snake root. In loss of appetite, and derangement of the digestive function, I have not unfrequently given it with the best effects. In should never be exhibited in its recent state, in consequence of its often effecting the bowels, and thereby counteracting the effects intended to be produced from its administration. It should be thoroughly

*Therapeutics and Materia Medica, vol. 2, page 444.
†Collections, &c. part 2, page 18.

dried in the shade, and kept for at least two months previous to prescribing it.

The dose of the powdered bark is the same as that of the Peruvian bark. The extract may be given in doses of from ten to twenty grains.

Cornus Sericea, Swamp dog-wood, Tetrand. Monog. Cortex.

The article under consideration is know by a variety of common and local appellations, such as Red-willow, Rose-willow, Blue-berried dog wood, &c. It delights in Swamps, and may often be seen growing in the vicinity of creeks and rivers.

The bark of this production, is supposed to contain less bitterness and more astrigency than Cornus Florida, in point of strength it is somewhat inferior to this article. It may, however, be applied to the same extensive set of cases with the Florida, and will be found a pretty good substitute for it. It may be given in the same dose, both as relates to the powddred bark and extract.

Cornus Panaculata, Bush Dogwood, Tetrand. Monog. Cortex.

In as much, as the Panaculata, has not been very extensively made use of, little of course can be said on the subject of its utility. It is siad, however to pos

sess similar virtues with the different species already introduced into this work; and there is very little doubt, but what it is well adapted to the treatment of many cases and diseases of debility. My own experience of its virtues, is rather too limited, to enable me to say any thing in attestation of its beneficial application in any one case. As a tonic it is nevertheless, deserving of attention, with a view to ascertaining its true character in point of strength, and activity.

Frasera Carolinicusis,* Wild Columbo, Tetrand. Monog. Radix.

This is a tall plant, the root of which is large and perennial, and found on the borders of the lakes in Pennsylvania and New York. It also grows in very great abundance in some parts of Ohio, but more particularly in the neighbourhood of Marietta. The root approximates in resemblance to the Columbo of the shops; and is used in considerable quantities as a substitute for this article, and with very good effects. As far as my experience goes, I am able to speak in favour of its medicinal operation. In several cases of a relaxed state of the stomach and bowels, in which I have prescribed it, I have found it competent to restore the appetite, and increase the digestive powers very considerably. As a tonic bitter it is undoubtedly worthy of notice. There is an objection however to its use, in its recent state, in consequence of its frequently operating as an emetic and cathartic; and thereby coun-

*This plant is the Frasera Walteri, of Michaux.

teracting the tonic effect intended to be produced by its administration. It should, therefore be given when perfectly dry. The dose is the same, as that of the Columbo of the shops, which is the product of the country of the Caffres, in Africa.

Chironia Angularis, American Centaury, Pentand. Monog. Herba.

This is the Sabatia Angularis of Pursh. It is a beautiful annual plant, quite common in most parts of the United States. It is an agreeable although an intense bitter. As a tonic bitter it is often substituted for the Gentiana Lutea, an inhabitant of the Alps, Pyrenees, Appenines, and other mountainous situations in the temperate parts of Europe. The utility of this native production is well known to many of our American practitioners; by the major part of whom it is highly esteemed. In intermittents, it promises to be a remedy of no inferior degree of activity. Professor Chapman, says, "it is resorted to by every description of practitioners, regular and irregular, in our remittent and intermittent fevers;" and he further remarks, "that like some other articles it has the advantage over the Peruvian bark, of being susceptable of employment in every stage of these diseases."* Doctor Eberle says, "I knew a country practitioner" "who was in the habit o giving this remedy conjointly with *calamus aromaticus* in intermittents, and with very considerable success." I have in many instances employed this plant in atony

*Elements of Therapeuties and Materia Medica vol. 2. page 44.

of the digestive organs, accompanied with general debility, both in the form of powder and cold infusion; and in the generality of cases with very happy results. The dose of the former is from fifteen to thirty grains; and that of the latter, to the extent of a wine glass full three or four times a day. But in the administration of this, as well as any other remedy, the circumstance of the case should always govern the practitioner in prescribing the quantity.

Menyanthes Frifoliata,* Buckbean, Pent. Monog
Radix. Herba.

This plant is a native of this country; and also of Europe. It, as well as the root is intensely bitter. In some countries it is said, it is used as a substitute for hops, in the preparation of malt liquor. Favourable reports are recorded in relation to its having proved useful in some cases of intermittents. I know nothing as respects its virtues, for I have never had an opportunity of seeing it. The following remark is made by Professor Bigelow. He says, "we may regard it as one of the numerous vegetable bitters abounding in our country, which are fully equal in strength to imported articles of this class, and which may hereafter lessen our dependence on foreign drugs."†

Murray has merely noticed the European plant, the medicinal qualities of which agrees with our own. Cul-

*This plant is sometimes called *Frifolicum Paludosum, Frifolium Fibrinum*, and *Frifolium Aquaticum.*

†American Medical Botany, vol. 3 part 1, page 59.

len has paid more attention to the subject; for he informs us of his having viewed its effects in cutaneous diseases of the herpetic or apparently cancerous kind. The medium dose is about fifteen grains of either the powdered plant or root. The extract may be given in ten grain doses. The infusion and decoction in proportion.

Appocynum Androsœmifolium, Milk-weed, Pentand. Digynia. Radix.

The genus appocynum of which but eleven species as yet appear to be noticed by botanists, belongs to the class and order, and the natural order of Contortæ of Linnæus, as is arranged above. The species which is the subject of this article, seem to possess some properties, which I think certainly entitled it to no small share of attention. According to Walter and Michaux, it is an indigenous plant, growing naturally, from Canada to Virginia. It is likewise to be found, in the greatest abundance in Maryland, where it is recognised by the common and local appellations of Silk-weed Snakes-milk, &c. and by the peasentry it is incorrectly supposed to possess highly noxious properties. Every part of this plant, as well as the root, emits upon the slightest incision, a milky-like substance, which, when procured in the form and consistence of gum elastic, and submitted to the flame of a lighted taper, burns with very great vividness, exhibiting a flame, in appearance much like that resulting from the combustion of the spt. vini rect.

This article, attracted my attention in the summer of 1817, when, after procuring a suitable quantity of the root I determined to submit it to a course of experiments, the results of which I noticed in a former edition of this work. These experiments I have thought proper to include in the present volume; which are as follows: From 2536 grains of the recent root, I obtained 1726 grains of Cortex or bark, and 810 grains of ligneous or woody part. The active properties reside exclusively in the bark. From 3240 grains of this bark, I obtained 178 grains alcoholic extract, and 28 grains watery, and inversely from the same proportion 160 watery, and 104 alcoholic extract.

From the attention that I gave to this subject, I perceived that, it possessed considerable tonic powers, the action of which, depended entirely upon the dose in which it was given; as also that of an emetic, certain, prompt, and effectual, in its influence upon the coats of the stomach, rarely occasioning the unpleasant vertigo, and other serious effects, that too frequently accompany the use of some of our indigenous articles belonging to this important class of remedies. As a tonic, I have given it, in a number of cases of loss of appetite, accompanied with general debility, with decided benefit, in doses of from fifteen to twenty grains twice and thrice a day. I am in the habit of exhibiting it in the form of the powdered bark which should be carefully taken off and dried in the shade.

I shall notice this article again under the head of emetics.

Gentiana Catesbœi, Blue Gentian, Pentand. Digynia. Radix.

This species of Gentian, is said to resemble the Gentian of the shops in its remediate operation, a tincture of which is esteemed a remedy by some, in dyspepsia, when given in doses, of from one fourth to half an ounce.

Aralia Nudicaulis, Wild Sarsaparilla, Pentand. Pentagynia, Radix.

This species of Aralia is common from Canada to Carolinia; and it is not unfrequently used as a substitute by physicians, for the Smilax Sarsaparilla. The root of this plant, is slightly aromatic and tonic, and as such, it is stated to have been found useful, in a relaxed state of the stomach, with loss of appetite. The mode in which it is generally given, is in the form of a watery infusion.

Zanthorhiza Apiifolia, Shrub-yellow-root, Pentand. Polygynia,———Radix, Caulis.

This is the Zanthorhiza Tinctoria of Woodhouse, and the Zanthorhiza Simplicissima of Marshall. It is also known, by the common appellation, of Parsley-leaved Yellow-root, and is a native of the southern states. The bark of the root, as well as of the stem is intensely bitter. The bitter property, pervades the

ligneous or woody part of the root, but in this it is much weaker than it is in the bark. Professor Woodhouse, thinks it is preferable to all our native bitters, and very nearly allied to the Colombo root.* This shrub, will certainly be found a valuable addition, to this class of our indigenous vegetable productions; and it may be recommended, in a variety of cases in which the administration of tonics may be indicated. The dose of either of the powdered root or stem, is about two scruples. A cold watery infusion, makes an agreeable bitter.

Prinos Verticillatus, Winter-berry, Hexandria Monogynia, Cortex, Baccæ.

This beautiful and highly ornamental shrub, is known by a variety of names; such as, Virginian Winter-berry, Black-alder, &c.

The bark of this article, which is the part that is used for medicinal purposes, possesses the common properties of the vegetable astringent and tonic remedies, and as such, it has been advantageously employed, in intermittents, and in cases of debility. The late worthy Professor, B. S. Barton, in noticing the Verticillatus, says; that as "a coroborant in anasarcous and other dropsies, and as a tonic in cases of incipient sphacelus or gangrene, it is supposed to be especially use-

*Medical Repository, volume 5.

ful."* The bark, may be used in substance and decoction; and the berries may be infused in wine or spirits.

Acorus Calamus, Calamus, Hexand. Monog. Radix.

The Acorus Calamus, is not exclusively a native of the United States; it likewise grows plentifully in some parts of England, Holland, and Switzerland.

The root of this plant, is stated by John Murray M. D. "to have been used as a tonic in intermittent fever."† It may be considered more valuable, on account of its carminative properties, which renders it a useful stomachic medicine.

Chimaphila Umbellata‡ Pippsissewa, Decand. Monog. Herba.

This handsome evergreen plant, is abundant in various parts of the United States. It grows invariably in the woods; and only in dry situations.

Upon the therapeutic application and consequent utility of this species of Chimaphila, much has been said. Schoepf, in noticing it in his Materia Medica, speaks only of it as an astringent and corroborant, which properties it certainly contains in a considerable degree.

*Collections for an Essay &c. part second, page 5.

†Materia Medica and Pharmacy vol. I, page, 256.

‡This is the Pyrola Umbellata, of Wildenow; and Chimaphila Corymbosa, of Pursh.

The good effects of this article I have seen in several cases of Dyspepsia and in one case of chronic rheumatism. In this latter case, its use was continued for some time, before the disease was removed. It is a remedy that I think merits some attention on the account of the tonic power it possesses. However, it has been more extensively employed as a diuretic, and with no small degree of advantage. Upon its utility as a medicine of this sort, I will notice it more particularly in another place. It has been given with success in intermittents.

Chimaphila Maculata,* Spotted-leaved Pippsissewa, Decand. Monog. Herba.

This species of Chimaphila, is supposed by many to possess poisonous qualities. From the remarks of Schoepf, in his Materia Medica Americana on this subject, it would seem to be as destitute of any deleterious properties, as the Umbellata; and that it was used in intermittents frequently for this article in Pennsylvania. He says, "*infusum foliorum, ante annos aliquot, sub nomine Pippsisseva frequentissime ad febres intermittents, exhibeatur in Pennsylvania.*" It is seldom, if ever made use of, with a view to the removal of diseases; and therefore it is uncertain how far it is entitled to attention. I am myself disposed to consider it equally innocent with the other species; and as being very analogous to it, in its medicinal character. As soon as a

*Pyrola Maculata of Linnæus.

suitable opportunity is afforded, I contemplate submitting it to a course of experiments. It may easily be known from the other species by the whitish marks, in the leaves. The leaves are also more pointed, and deutated.

Prunus Virginiana, Wild Cherry-tree, Icosand. Monog. Cortex.

A very common tree in many parts of our country; the fruit of which is esculent, and by some considered very delicious. The bark is intensely bitter, and along with this some degree of astringency and aromatic warmth.

The bark when exhibited in pretty large doses, and when continued for a few days, in the generality of instances, is apt to excite vertigo; which effect, may, I am inclined to believe, be ascribed to the small portion of prussic acid it contains. This effect I have frequently witnessed under the administration of it, at my particular directions. It is nevertheless an article which possesses much activity and promptness, and will be found an efficacious medicine. Its successful application I have frequently witnessed, in several forms of intermitting fever. Its use I have always suspended for a day or two, when it appeared to effect the head. When exhibited in conjunction with the aristolochia serpentaria, I have found it particularly useful. It appears to me to be better adapted to the removal of intermittents, than any other malady. Doctor Eberle,

in noticing its efficacy in this disease, says, "I have myself employed it a good deal, while residing in the country, and in the majority of cases, with success." He futhermore observes, "it has appeared to me most useful in those cases, in which the bark did not produce its usual beneficial effects; and in one instance, where the bark, arsenic and mercury, had all been tried ineffectually, the patient was finally cured by the use of the wild-cherry bark infusion.* Several writers have spoken in attestation of its efficacy in this very common and troublesome malady.

In Phthisis Pulmonalis it has also been recommended, but how far it is entitled to consideration, it is impossible for me to say, as I have never had an opportunity of testing its efficacy. Should it however, be found generally useful in protracted cases of this disease, it doubtless will very justly be ascribed to the portion of Prussic acid it contains, in conjunction with its tonic power.

This plant is undoubtedly a valuable remedy, and one that may, hereafter, be considered worthy of a place in the apothecary shops.

The worthy Doctor Chapman, speaks rather favourably of it in asthma. He states, that, "in several instances which have come under" his "care, some relief was procured by the long and persevered use of this medicine."†

*Materia Medica and Pherapeutics, vol. 1 page, 207.
†Elements of Therapeutics and Materia Medica, vol 2 page 445

This article is generally given in substance and in strong infusion, in the doses of from one to two drachms of the former reduced to powder; and from one to four ounces of the latter, which is to be repeated as often as its administration may be considered necessary.

Coptis Trifolia,* Gold Thread, Polyand. Monog Radix.

This species of Coptis is also a native of Iceland, Labrador and Siberia. The roots, which are thread shaped, are of a beautiful yellow colour. They are intensely bitter. An infusion of them has long since been employed by the country people in apthous, and ulcerous affections of the mouth. As a tonic bitter they are thought by many to be little inferior to Quassia. The powdered root, may be given in doses of from ten to twenty grains. It may be given in the form of infusion or tincture. It sits easy on the stomach, seldom or never producing any uneasiness.

Magnolia Glanca, Small Magnolia, Polyand. Polygy. Radix, Cortex.

There are many species, belonging to this interesting genus of plants. The present species, is of a much smaller growth than the others; but perhaps, is deserving of more notice on account of the remediate properties it possesses. It is recognized by various names; such as, Swamp-laural, White-bay, Sweet bay, Beaver-wood, Elk-bark, Indian bark, Magnolia, &c. It grows

*Helleborus Trifolius of Linnæus.

in almost every section of the United States; and generally delights in the neighbourhood of Rivers, Creeks, and Rivulets; in which situations, it may not unfrequently be seen in very great abundance

The bark of every part of the Magnolia Glanca, imparts to the taste, an agreeable aromatic bitter; and may consequently, justly be considered a tonic, approaching in its medicinal character, to the Canella alba.

The diseases in which this substance has been recommended, are such as generally yield to the administration of the articles included in the present class of remedies. It has been used very extensively in intermittents; and the reports in attestation of its efficacy are very favourable. The bark when reduced to powder, may be given in the dose of a drachm four or five times a day; and when exhibited in the form of decoction and infusion, a wineglass-ful may be taken as often as the situation of the patient and state of the disease may render it necessary.

Magnolia Acuminate, Cucumber-tree, Polyand. Polygy.
Cortex.

The present article, appears to be nearly allied in its medicinal character, to the one just noticed. In consequence, however, of its not having been so frequently used, little of an interesting nature, can be said in support of its utility, and consequent recommendation of its virtues. I have never employed it, and can therefore,

say nothing upon the subject, worthy of notice. The dose is the same as that of the Magnolia Glauca.

Magnolia Tripetala, Umbrella-tree, Polyand. Polygy. Cortex.

The flowers of this species, Professor B. S. Barton says, "have a very powerful smell," and "often induce nausea and head-ache."

The corticle part, has been exhibited in substance as a tonic remedy, in intermittents, and it is stated, with some success. The dose is rather larger than that of the two preceding articles.

Magnolia Grandiflora, Tulip-tree, Polyand. Polygy. Cortex.

We are informed by Jacod Dyckman, M. D. in his edition of the Edinburgh new Dispensatory, that "in Florida, the bark of the root of" this article, "is used in combination with snake root, as a substitute for the Peruvian bark, in the treatment of intermittents." It is, undoubtedly, to be regretted, that the species, of this interesting genus, have not attracted more attention by the members of the profession. They all, we have the strongest reason for believing, possess virtues that are worthy of notice; and which render them applicable, to a variety of cases of diseases in which tonics have been found useful.

Liriodendron Tulipifera, American Poplar, Polyand. Polygy. Cortex.

This beautiful flowering, majestic and highly ornamental tree, grows abundantly in every part of the United States; and is known, by the common names of white and yellow poplar, poplar, white wood, Poplar-tree, old wife's shirt, &c.

The bark of this tree, when chewed, imparts a bitter taste, with some degree of aromatic warmth, and pungency. As a remedy it has been highly recommended for its tonic virtues, particularly, on account of the success with which it is said to have been exhibited in intermittents. Doctor Young, in a letter addressed to Governor Clayton, observes, "I have prescribed the poplar bark in variety of cases of the intermittent fever; and can declare, from experience, that it is equally efficacious with the Peruvian bark, if properly administered."*

The remedy under consideration, has also been said to be useful in dysentery, and it might inferred a priori, to be calculated to produce some good effects in this disease, when directed under circumstances, favourable to its administration; when the general febril excitement has been subdued, without removing the local affection of the Colon, in which the disease is generally situated.

In hysteria Dr. Young supposes it to be as useful a remedy, as in intermittents; for he remarks, "I can as-

*Carey's American Museum. vol. XII.

sort, from experience, there is not in all the Materia Medica a more certain, speedy, and effectual remedy in hysteria, than the poplar bark, combined with a small quantity of laudanum."

The powdered bark of either the root or tree, given in conjunction with steel dust, has been found a useful remedy in a debilitated state of the stomach.

The dose of the powdered bark, is from forty grains to two drachms. It may also be given in the form of infusion, of decoction and tincture.

Hydrastis Canadensis, Yellow-root, Polyand. Polygy. Radix.

The root of this plant, is the part that is employed for medicinal purposes, a spirituous infusion of it is used as a tonic bitter. The late Dr. B S. Barton says, "an infusion of the root, in cold water, is also employed as a wash in inflammations of the eyes."* I have no knowledge of its virtues, from my own experience, and can therefore say nothing in commendation of its utility.

Scutellaria Lateriflora, Scull cap, Didynamia, Gymnospermia,——Herba.

This plant, delights in low grounds, and marshy situations; and is not unfrequently seen growing along Creeks and Rivulets, from Canada to Carolina.

*Collection for an Essay, &c. part second, page 14.

I have not introduced this article in the present work in consequence of its supposed anti-hydrophobic powers, for the time that has elapsed, since its introduction to public notice, as a valuable antidote to canine madness has afforded ample opportunity to test its formerly supposed efficacy, and convince the medical public, of the gross absurdity and inconsistency of the opinions that were entertained in relation to its remediate virtues, as an article worthy of regard and attention, when directed with a view to the complete and final eradication of this truly unpleasant and distressing disease above all the maladies, to which mankind is subject.

Schoeph, considers this species of Scutellaria, with two others; the Sculettaria Hysopifolia and Scutellaria Integrifolia as possessing similar virtues to the Scutellaria Galericulata, which he supposes a detergent, and a tonic bitter, useful in tertian fevers. From my own experience of this once noted, now almost forgotten plant, I am not furnished with any information, the communication of which would be worth inserting. The dose I should presume to be rather large, from the copious draught, that are represented to have been given to the subjects which laboured under hydrophobia.

Polygala Rubella,* Bitter Polygala, Diadelphia, Octandria, Herba.

This species of Polygala, is an inhabitant of dry, sandy, and gravelly soils, in many parts of the United States.

*Polygala Polygama, of Nuttall.

Doctor Bigelow, in speaking of this substance, says, "from its extreme bitterness it has attracted the notice of various medical practitioners in the Northern States." He also remarks, "I have been assured by those who have tried its efficacy, that the infusion administered in small doses, proves a useful tonic and stimulant to the digestive organs."*

Eupatorium Perfoliatum,† Bone-set, Syngenesia, Polygamia, Œqualis, Herba, et Flo.

This plant, which is common in meadows and along rivulets, is known by a variety of appellations, such as, Thorough-stem, Indian-sage, Cross-wort, Thorough-wax, Vegetable antimony, &c.

Every part of the Eupatorium Perfoliatum is intensely although not disagreeably bitter. By many, it is thought to be little inferior to the anthemis nobilis; and like this article, when taken in large quantities, is apt to excite vomitting and purging. As a tonic this article has been advantageously exhibited in intermittent fevers. "Given in moderate quantities, either in substance or in cold infusion or decoction, it promotes digestion, strengthens the vicera, and restores tone to the system."

In the hands of Professor Bigelow, this substance has been used with considerable benefit. He says, "I have

*American Medical Botany, vol. 3, part 2, page 132.

†Eupatorium Connatum of Michaux; and Eupatorium Virginianum of Plukenet, and others.

prescribed an infusion of Eupatorium in various instances to patients in the low stages of fever, where it has appeared instrumental in supporting the strength and promoting a moisture of the skin without materially increasing the heat of the body. I have also found the cold infusion or decoction a serviceable tonic in loss of appetite and other symptoms of dyspepsia, as well as in general debility of the system."* †

Among all the internal and external remedies, that are employed in Tinea Capitis, I consider the Eupatorim Perfoliatum, far superior, in point of activity and promptness of effect. I have used it in conjunction with the Cremor tartari, in this truly distressing and unpleasant malady, with the most decided and unparalleled success. I have never found it to prove ineffectual. Whether its effect in this disease is attributable to its tonic power I am at a loss to determine. I would however, be inclined to attribute it to a general alterative property which perhaps, this plant possesses. The following is the prescription in which I generally employ it in cases of adults, with the mode of administration.

℞ Pulv Foliorum Eupatorii Parfolati ℥ss
Pulv. Cremor Tartari, ——————— ℥i

mix and divide into eight powders, one of which may be taken in the morning, noon, and at night; and continued, until the disease is removed.

*American Medical Botany, vol. 1 part 1, page 37.

†W. Foreman, M.D. of Pennsylvania, informed me that he used the Eupatorium Perfoliatum, in a variety of cases where tonics are indicated, particularly in Dyspepsia, with very great advantage.

In consequence of children being generally averse to taking this preparation in substance; I have been induced to prepare it according to the following formula.

℞ Fol. Eupat. Perfoliati ℥i
Cremor Tartari ℥i
Aqua Bulientis ℥viii

The boiling water, which is t be poured on the above articles should be permitted to cool, when it is to be strained, and a sufficient qauntity of loaf sugar added to bring it to the consistence of a syrup, by boiling it over the fire for ten minutes.

Of this preparation, two teaspoonfuls may be given three or four times a day, and continued until the desired effect is produced.

I have never as yet, found any difficulty, in getting children to take this composition: the use of which, I can with confidence recommend to the particular regard and attention of the medical public, as being a remedy of primary importance in the treatment of Tinea Capitis.

The dose of the powdered leaves of the Perfoliatum and of the flowers, is from twenty to thirty grains exhibited in any suitable vehicle. The infusion and decoction may be given in doses of from two to four ounces when its tonic effect is required.

Eupatorium Teucrifolium, Wild, Hoarhound, Syng. Polyg. Œqualis, Folia.

This plant is the Eupatorium Pilosum of Walter. In the Southern States it is deemed a useful remedy in treatment of diseases that are prevalent in and incident to that climate.

The profession is in a very great degree indebted to George Jones, Esqr.* for a knowledge of its medicinal virtues.

In noticing this subject he remarks, "it seems as an excellent substitute for the Peruvian bark; indeed, among the planters, on, or near the seaboard it supersedes the use of the bark in the cure of fevers." He also observes, that, "it is tonic, diaphoretic, diuretic and mildly cathartic, and does not oppress the stomach as the Peruvian bark is apt to do; hence, it may often be exhibited where the cinchona is inadmissible."

This gentleman, directs "one ounce of the leaves to be infused in a quart of water," which, "may be taken daily in doses of from two to four ounces every hour or two."

I shall omit, introducing this article in the lists of diaphoretic and diuretics, in consequence of its not having been exhibited to a sufficient extent to confirm its utility in those respects in the successful management of diseases.

*The former President of the Georgia Medical Society

Anthemis Cotula, Wild Chamomile, Syng. Polyg. Superflua, Rediatæ, Herba.

The Anthemis Cotula, is known by the common names of Dog fennel, Piss-weed, &c. It delights in a rich and prolifick soil, and is generally found in the neighbourhood of old barns, stables, and other fertile situations. It is said, to be a strong and active bitter. It should be given in small doses, as large quantities are apt to excite emesis.

Solidago Odora, Sweet Scented Golden-rod, Syngen Polygamia Superflua, Oleum.

This beautiful plant is common in some parts of the United States. The flowers have an agreeable smell and taste. The essential oil which arises from the plant by distillation will be found useful in cases, where the use of the Oleum Anisi may be recommended. It no doubt will be found a valuable medicine in cases of the cholic, arising from flatulency in children. It is a simple medicine, and therefore it is not necessary to be very nice as to the dose.

Aristolochia Serpentaria, Virginian Snake root, Gynandria, Hexandria, Radix.

The Virginian Snake-root, may with propriety be included among the more active and useful remediate vegetable productions, of our country. It has long since

been introduced into practice by our physicians, and known, and extensively employed, in various sections of Europe. As an article of the Materia Medica, it is justly considered a valuable tonic, stimulant and diaphoretic remedy, which circumstance renders it a highly important medicine, in the treatment of cases, of a typhoid type, in which the *Vis Vitæ* should be supported, and the action of the skin kept up by the combination of such medicinal agents, as are calculated to produce this effect. It should therefore, never be employed, unless it is in the sub inflammatory state of fever.

Doctor Dyckman, in his edition of the Edinburgh New Dispensary, in noticing this article, says, that "in combination with the Polygala seneca" he "has prescribed it with marked advantages in pneumonia typhodes."

In intermitting and remitting fevers, where stimulants exhibited in combination with tonics are deemed useful, the serpentaria virginiana will be found a serviceable remedy, both alone and when given in conjunction with the Peruvian bark. In this latter way, I have found it far more effectual than in the former.

In the common typhus fever, which so frequently is met with in every part of this country, this substance will be found of infinite value and importance, particularly when prescribed in the form of a saturated tincture of the root. In this way I have used it, with the happiest results, in doses of from two to four ounces, every two or three hours, diluted with a suitable quan-

tity of water. It has been found serviceable in composing the stomach, and allaying bilious vomiting. When given with a view to this effect, the cool infusion will be found most effectual.

The dose of the powdered root is from twenty to thirty grains, or more of the infusion from one to two ounces. It should never be prepared in the form of decoction, as by this process the essential oil is dissipated, and its powers become much impaired.

Aristolochia Sipho. Gynand. Hexand. Radix.

This species of Aristolochia grows in Pennsylvania, and in other parts of the United States. It is a large climbing plant. The root contains much pungency and aromatic warmth, "and for certain purposes is, perhaps, preferable to the common snake-root."*

Humulus Lupulus. Common Hop. Dicœcia, Pentand. Striboli Siccati.

It is generally known, that the Hop has long since been introduced as an ingredient in malt liquors, in consequence of the agreeable taste it imparts.† It, as

*Barton's Collections for an Essay, &c. part 1st, page 15.

†It is observed, that "the great superiority of the Hop, as an ingredient in our malt liquors, depends upon the fact of its containing within itself several distinct and independent elements of activity, which the other bitter herbs that have been employed as its substitute do not possess—The philosophy of its operation

a medicine, is supposed to possess considerable tonic powers; and as such, it has been recommended in some cases, in which the articles belonging to this class of remedies, have been found useful. Professor Bigelow, says, "I have employed the tincture of Hops very often in practice, and have, on the whole, had quite as much reason to be satisfied with its tonic operation, as with that of any of the bitter tinctures in common use."* In cases of diseases of debility accompanied with *subsultus tendinum*, an infusion of Hops, will be found peculiarly serviceable, in allaying the spasmodic affection of the muscular system by its narcotic influence; and in supporting the *vis vitæ*, by its tonic operation. When taken with this view, it should be drank copiously; and used, when necessary, in conjunction with wine and other stimulants.

Populus Tremula. Aspen. *Dioecia Polyand. Cortex.*

The bark of the Populus Tremula is a valuable tonic bitter. It has been found an article of considerable worth in the cure of intermittents. As a tonic it no doubt will be found to answer as a substitute for a number of medicines belonging to this class.

may be adduced as a striking illustration of the present subject; first, then it contains a *bitter* principle, which imparts a tonic and agreeable flavour to the beverage, while at the same time an aromatic ingredient adds a warm and stimulating quality, and modifies the bitterness; the Hop moreover contains an astringent ingredient *(tannin* and *gallic acid)* the effects of which are to precipitate the vegetable mucilage, and thus to remove from the beer the active principle of fermentation."

*American Med. Bot. Vol. 3, part 2, page 169.

Veratum Luteum. Blazing Star. Polygand. Monoi. Radix.

This plant, is also known by the name of Devil's-bit. The root is a pungent bitter; a spirituous infusion of which, is used as a tonic, in many parts of the United States. From what has been said of its usefulness, there is but little doubt, but what it may be productive of good effects in diseases of a debilited type.

CHAPTER VII.

Astringents.

The remedies belonging to this class, may be defined, such of the articles of the Materia Medica, as, display in their operation, a condensing or corrugating effect, either upon the animal fibres of the parts with which they are immediately brought into contact, or upon situations remote from the primary point, in which they produce the impressions, peculiar to their application, through the medium of a sympathetick communication, which is intimately connected with the functions of the complicated machinery of the living economy.

In thus effecting the grand objects of their exhibition it cannot, it is presumed, for a moment be supposed that they exert any thing like a chemical action

in thus producing a condensation of the living fibres; but that, the changes which they produce, are rather to be ascribed to the peculiar impressions which they induce, in conformity with the laws by which the living principle is alone regulated.

Some of the articles strictly considered as astringents, produce an evident condensation upon the dead animal fibres with which they are brought into contact; which circumstance has, perhaps, given rise to the idea, that, the remedies belonging to their class, operate analogusly on the fibres that are subject to, and under control of, the vital principle. But no correct inference can be drawn on the operation of remedies, upon the living body, from whatever may be the result of their application on dead animal matter; in as much as the former is subject to, and under the control of the physical causes, and consequently beyond the reach of the operative influence of chemical agents; while the latter from exposure to high temperatures, develope their constituent principles, in consequence of their being favourably disposed to yield, if the expression may be allowed, to the impressive agency which chemical agents exert under the circumstances of the loss which is sustained from a total deprivation of the powers of life in the substances thus exposed.*

* It is under circumstances of this kind, that some of the astringents produce their useful effects, in the process of the manufacturing of leather; but this principle cannot be applied, as Doctor Cullen has supposed, to their operation on the living system.

A certain very erudite writer, correctly remarks, "that the application of" astringents "to the human machine is not easy" to be understood. And that "tannin cannot be introduced between every minute fibre of which the human body consists, nor could it precipitate the galatine without its consequences being obvious, perhaps dangerous." We have then every reason to believe that the operation of astringents upon the living body, differs from that upon the dead subject.

The distinguished Cullen observes, "that by the corrugation and construction which" astringents produce on the "whole of the mouth and fances from a small portion of" them being "applied to a small part of the tongue," that they "act upon the sentient nerves; and that, taken into the stomach, they show their effects in other parts of the body so quickly, that they can hardly be supposed to have passed the stomach itself; therefore," he furthermore says, "their sudden effects in distant parts, must be ascribed to an astringent power communicated from the stomach to those distant parts."

In the generality of instances in which astringents are employed, they have been found to excite a peculiarity of sensation in reference to the part upon which their action has been displayed If to the organs of gustation a sense of dryness. They also produce an evident degree of corrugation upon the parts, on which

their impressions are made; this effect is not unfrequently, and, perhaps, always communicated throughout every part of the system; but is only evident upon such remote parts as may at the time of their exhibition be in a state of relaxation, in consequence of which circumstance their effects are more conspicuously developed.

The changes induced in the system, from the primary effects of these remedies, are, an increase of the power of condensation, or cohesion in the various parts of the system, and an increase of tone in the animal body: as, also, a dimunition of the caliber, or capacity of the vessels, in conjunction with a lessened degree of irritability, and perhaps, some of the sensibility.

The peculiar effects which result from the application of these remedies, may be conceived to be the consequence of a certain modified stimulant impression which they generally produce; from the circumstance of their exhibition, when directed in small doses, being succeeded by the strikingly analogous effects that follow the administration of the remedies which have with propriety been denominated tonics; the effect of which has generally been supposed to depend upon the moderately stimulant action they induce.

Independent of what has just been mentioned, in relation to the principle action upon which the impressions arising from the application of astringents depend; it may perhaps not be out of order to remark, that the influence, or rather the effects which is the general result of their exhibition, have been ascribed to various

circumstances—Some have supposed it to be the result of the gallic acid which certain astringents contain; while others have supposed it to be dependent on the tannin which they possess; both of which sentiments would seem to be incorrect, from the very simple circumstance of many substances displaying an astringent operation, which possess neither gallic acid or tannin. Such for instance is the case with many of the preparations that are selected from the mineral kingdom; and indeed as the learned Doctor Eberle, remarks, in his valuable treatise of the Materia Medica and Therapeutics, with a very great degree of correctness, "that some of the most astringent substances contain neither tannin nor gallic acid."

Although this part of our subject appears to be beyond the limits of our understanding, and we being consequently altogether unable to trace it throughout its variated and diversified meanderings; we have nevertheless one circumstance to console us, which is, that of our ineffectual investigations on this point, not being calculated to prevent us from making a suitable application of them, with the view to the production of certain remediate purposes, in which their administration may, with propriety, be indicated.

Considerable is the number of affections in which this set of remedies may be employed with success; they should however, as a general rule never be resorted to, with the view of checking active hœmorrhage, without previously premising the use of the lancet, whenever there is a fulness and tension in the pulse.

First, because venesection alone, when carried to a sufficient extent, will be found sufficiently adequate, in the majority of instances, to cause a cessation of the discharge; and when this plan has been found inadequate, the system is at least put in a situation which is favourable to the operation of astringents. Secondly, when given under the circumstances just cited, without the system being prepared for their administration, they prove not only useless, but may be productive of unpleasant effects.

In the latter, or chronic, stage of dysentery, astringents may often be exhibited with advantage; but, in the first stage of the disease they are productive of injurious consequences, and should therefore not be given. Where much febrile excitement accompanies the disease, the use of this class of remedies should always be preceded by a necessary observance of the antiphilogistick plan of treatment, which not unfrequently effects a cure, and consequently renders astringents unnecessary. Venesection, when indicated, calomel given alone, or in conjunction with castor oil and the use of the calcined magnesia, or the saline purgative; with a suitable application of a blister over the abdomen; or the administration of other remedies, which are productive of analogous effects, will, in the majority of instances, remove the disease; and if they prove ineffectual, astringents may be resorted to with advantage; the system, under circumstances of this kind, being brought into a state which greatly favours their operation.

In menorrhagia and in fluor albus, or what is more commonly called leucorrhœa, the suitable exhibition of astringents will be found competent to the production of good effects, when no febrile action seems to be connected with these cases. Perhaps it may not be improper in this place to insert a preparation which I have very frequently employed, with unequivocal success, in those diseases when they have been unaccompanied or or unattended with any undue degree of excitement in relation to the arterial action; which, in the majority of cases, is not the case, in consequence of these effections being the result of general debility of the system. This preparation is as follows:

℞ Tinct. Kino. ℥i
Elix. Vitriol
Tinct. opii. aa. ʒi

Of this composition, I generally direct a teaspoonful to be taken morning, noon and at night in any convenient vehicle.

In diarrhœa, astringents often produce a cure, when they are resorted to after the bowels have been freely evacuated by the use of castor oil, or some other ecoproctick medicine.

In many other cases of disease they may be usefully employed.

Astringents.

Huchera Americana	Alum-root
Rhus Glabrum	Sumach
Statice Caroliniana	Sea-Lavender

Arbutus Uva Ursi	Whortelberry
Chimaphila Umbelleta	Pippissewa
Agrimonia Eupatoria	Acrimony
Euphorbia Hypericifolia	Milk Persely
Spiriœa Tormentosa	Hard Hack
Potentilla Reptans	Common Cinquefoil
Rubus Villosus	Blackberry
Rubus Procumbens	Dewberry
Geum Rivale	Water Aveus
Actea Racemosa	Rich-weed
Orobanche Virginiana	Virginian Beach drop
Geranium Maculatum	Spotted Geranium
Geranium Robertianum	Herb Robert
Comptonia Asplenifolia	Sweet fern
Quercus Rubra Montana	Spanish Oak
Myrica Cerifera	Candleberry Myrtle
Dyospiros Virginiana	Persimmon

Huchera Americana,* Alum-root, Pentand. Digynia. Radix.

The root of this species of Huchera is an intense astringent. Its application has been principally directed as a remedy in obstinate ulcers. It is, however, seldom resorted to as medicine in this way.

Rhus Glabrum,† Sumach, Pentand. Trigynia, Gallæ.

This Rhus Glabrum, differs very materially, in its sensible and operative qualities, from the species that

*_Huchera Viscida_ of Pursh, and the _Huchera Cortusa_ of Michaux.

†_Rhus coriaria_ of Linnæus.

have been considered heretofore under the head of narcotics. The berries, indeed, may be eaten with impunity and promise to afford a medicine worthy of attention. These will be more particularly noticed under the head of refrigerants.

The object and intention of introducing this article in this place, is with a view of inviting the attention of the American practitioners to the galls or rather excrescences that are found attached to to its leaves. Ansel W. Ives, M. D. in his edition of the very valuable Pharmacologia of the celebrated J. A. Paris, M. D. F. R. S. &c. in writing on this substance, says, "I was informed by Dr. D. Walters, of this city,* that he had used them as a substitute for the Aleppo galls during the last ten or twelve years, and that they were in every respect preferable to them." These excrescences are powerfully astringent; and are supposed to be in no way inferior to the gall-nuts, which are the production of the *Quercus infectoria* of Oliver, and which are extensively used both as a medicine and in the arts in many parts of the world.

Statice Caroliniana,† Sea Lavender, Pentand. Pentagy. Radix.

The Sea Lavender or Marsh-Rosemay, as it is sometimes called, grows in almost every part of the United States. It is an inhabitant of marshy situations, par-

*New York.

†Statice Limonium of Muhlenbergand Linnæus.

ticularly of the salt marshes. The root is perennial, large, fleshy, and very fusiform, or spindle shaped; but sometimes rather branched. This may be considered among the most powerful and active astringents belonging to the vegetable Materia Medica of our country. It also imparts some degree of bitterness to the taste, but not in a sufficient degree to insure it a place in the class of tonic bitters.

As a medicine the root has been used extensively, and the reports in relation to the success with which it has been prescribed are very favourable. In ulcerous effections of the throat, and in Cynanche Tonsillaris, a decoction used as a gargle is highly recommended. Its application has, however, not been confined to these cases only. In the same formulæ it is extolled as a remedy of some efficacy in a relaxed state of the intestinal canal, and in dysentery after the general febrile excitement has been subdued, by the use of the most efficient depleting means with which the profession acquaints us, and the local disease of the bowels continue. It is also stated, and upon respectable testimony, to be worthy of notice in diarrhœa and Cholera Infantum. It will undoubtedly be found a remedy of considerable importance in the diseases and affections in which the medicines belonging to this class are not contra indicated.

Arbutus Uva Ursi. Whortelbery. Decand. Monog. Folia.

The Uva Ursi grows spontaneously in the woods, and on hills in Scotland, and in almost every part

of Europe. It is also very common in many parts of the United States. In some parts of Russia, the leaves of this shrub are used for tanning.

The medical effects of this medicine depend entirely on its astringent and tonic powers. It is therefore used in various fluxes arising from debility, menorrhagia, fluor albus, cystirrhœa, diabetes, enuresis, diarrhœa, dysentery, &c. It has been strongly recommended in phthisical complaints by Dr. Bourne, and in diseases of the urinary organs, by De Haen, particularly in ulcerations of the kidnies and bladder. Dr. B. S. Barton recommends the Uva Ursi as a valuable medicine. He has used it with advantage as a medicine, in nephritis, as well as in old gonorrhea. It is said by Schoepf, that the Indians mix the leaves with tobacco. This article is now kept in almost every apothecary shop. I think it would be well if more of our native plants, (possessing active medical virtues,) had a place in the shops with this article.

Chimaphila Umbellata, Pippsissewa. Decand. Monog. Herba.

This substance, is merely introduced here, on account, of its possessing some degree of astringency, which entitles it to a place in this class of remedies.

Agrimonia Eupatoria, Agrimony, Dodecand. Digynia. Herba.

This plant is a mild astringent. It has been usefully employed in a relaxed state of the stomach and bow-

els; in diarrhœa, and other affections, requiring the use of astringents. It is generally exhibited in the form of infusion, which is to be drank freely of.

Euphorbia Hypericifolia, Milk-persely, Dodec. Trigynia. Fobia.

It is with pleasure that I present the medical profession, with the following remarks, in relation to the remedial virtues of the Euphorbia Hypericifolia, the medicinal operation of which has heretofore been unnoticed by the various writers on the Materia Medica.

This plant, which is exclusively a native of the United States, attracted my attention in the year 1819, when I determined to enter into an experimental investigation of its virtues, in order to become acquainted with its true medicinal character; but the various duties connected with my professional avocations, prevented me from embracing a satisfactory opportunity until within a very recent period, when I made the necessary examination, the result of which is as follows:

The Euphorbia Hypericifolia delights in a rich and prolific soil, and is an inhabitant of gardens and other fertile situations. It is recognised by the common and local appellations of Black-pursely, Milk-pursely, Milk-weed, &c. Michaux, who doubtless was well acquainted with it has presented us with the succeeding description of its specific character: "Euphorbia Hypericifolia, glabra dichotemi, ramocissima, erectiuscula. patula, ramis divaricatis; foliis oppositis; subfalcato

oblongis, argute serratis, ramusculis summitate fasciculatim multiflores."

This species of Euphorbia is an annual plant, which grows to the height of a foot, and is rather procumbent. It has a smooth stalk, which is repeatedly forked with divaricated branches. The leaves, which are opposite and oblong, are somewhat falciform, and deeply serrated; these are often covered with purple spots. The flowers, which appear in August and September, are white, and situated in numerous quantities on the extremity of the small branches. This plant of which I perceive there is another variety, belongs to the eleventh class Dodecandra, the third order Trigynia, and the natural order Tricoccæ of Linnæus, and Euphorbia of Jussieu.

In the course of my experimental inquiry on the Euphorbia Hypericifolia, I digested several portions of the powdered plant in sulphuric ether and alcohol. The ethereal solution gave a precipitate upon the addition of alcohol. The alcoholic preparation assumed a pearly turbidness when distilled water was added. Both the ethereal and alcoholic solutions, upon being evaporated, afforded a residuum, which burnt with great vividness, and exhibited a flame much like that resulting from the combustion of the spirits of wine. The infusion and decoction in distilled water produced a copious precipitate, when either gelatin, or the sulphate of iron, was added. From these results we may reasonably conclude, that this plant contains caoutchouc, resin, and tannin.

In its sensible and operative qualities, this interesting indigenous production differs very materially from all the species belonging to the genus Euphorbia, hitherto known. Its taste is somewhat sweetish, which is succeeded by a considerable degree of astringency. In its effects on the animal economy, it is slightly narcotic and potently astringent.

As a remedial agent, the article under consideration is richly deserving of a conspicuous situation in the Materia Medica. Its astringent power is such as to render it a highly important and interesting remedy, in the treatment of those cases of disease, in which many of the valuable articles that are included in this class of medicines, have been exhibited with the most unequivocal and unparalleled success. I have, however, found it particularly beneficial in several of the diseases of the alimentary canal. The slight narcotic property that it possesses, renders it a more salutary and efficacious remedy, than the most of our astringents, in consequence of its allaying the sensibility of the parts with which it comes in contact, and thereby affording relief from pain, while by its astringent operation, tone is imparted to the debilitated vessels, which restores to them the performance of their destined functions.

In dysentery, I have directed the internal exhibition of the Euphorbia Hypericifolia, and that with the happiest results, where the true dysenteric symptoms have continued, after the inflammatory diathesis has been subdued, by the adoption of the most efficient antiphlo-

gistic means, with which a knowledge of the science of our profession acquaints us. It is however, under circumstances of this kind only, that I can conscientiously present it to the medical public, as a remedy of no small degree of importance, from a firm persuasion of the internal administration of astringents being counterindicated, so long as the pyrexia continues.

Diarrhœa, a malady with which the inhabitants of almost every section of the globe are more or less affected, is a disease which, although in the generality of cases seldom proves so eminently dangerous, as the one that has just been noticed; nevertheless, it not unfrequently, from its debilitating influence, undermines the vital energies, and consequently acts as an outlet to human existence. In this disease, I can recommend this species of Euphorbia: but previous to prescribing it, I have been in the habit of directing a dose of the sub. mur. hyd. in conjunction with the ol. ricini, or some other purgative medicine, with the view of removing any vitiated secretions that might be present in the intestinal canal. When this disease has been of long standing, from a protracted debility of the bowels, this remedial agent will be found a prompt and effectual medicine.

The following plan I have adopted, in relation to its preparation for administration, as well as for its mode of exhibition. The dose is intended for an adult; which can be proportioned according to the age of the patient.

℞ Euphorbiæ hypericifoliæ foliorum exsiccat. ℥ss. Infunde in octario aquæ bulientis, capiat cochlearia

magna unaquaque horâ donec morbi symtomata cessantur.

In Cholera infantum, this infusion will be found equally as efficacious as in the diseases in which I have noticed its use; when given in the dose of a teaspoonful every two or three hours.

In the primary stage of this affection, I have never given it a trial, from supposing that the state of the system would forbid its administration, in consequence of there being too much febrile action, which is a usual concomitant symptom connected with its occurrence.

Calomel alone, and sometimes in conjunction with castor oil, I have usually prescribed, with a view not only of removing the vitiated secretions from the bowels; as, likewise, in order to reduce the violence of the fever; but also, to correct the partially deranged hepatic action, which is often connected with its existence, previous to giving it. The case however, of calomel in small and repeated doses, I have often found adequate to its removal, when resorted to, with a view of effecting the first mentioned purposes. The success of this plan may be often greatly facilitated; particularly, when the disease seems disposed to assume a protracted form, by the application of a blister over the region of the stomach.

Spiræa Tormentosa, Hard Hack, Icosand. Pentag. Plasta.

Although this plant possesses some bitterness, and has consequently been used in some cases in which to-

nic bitters are supposed to be useful; it nevertheless, is powerfully astringent, and as such it has been advantageously exhibited in various fluxes, arising from debility. In diarrhœa it is stated to have been advantageously administered. In dysentery it has been directed with considerable success; but it should never be given until the general febrile excitement has been subdued by depleting remedies. It has been supposed to possess some advantages over the gum kind, in consequence of its possessing in a small degree, the properties peculiar to tonic medicines.

The extract may be given in doses of from three to six grains, frequently repeated. The infusion and decoction may also be used.

Potentilla Reptans, Common Cinquefoil, Isocand. Polyg. Radix.

As a mild astringent, the Potentilla Reptans has been used with advantage, in diarrhœa, and other affections of the bowels. An infusion of the root may be given, without being very particular as to the quantity.

Rubus Villosus, Blackberry, Icosand. Polygyn. Radix.

The blackberry root has been used with the best effects, in affections of the bowels. It may be given in the form of infusion. It is a mild and efficacious astringent.*

* Doctor Mease remarks, that, "a jelly made of blackberries, when on the turn from red to black, is much used in the United States for

Rubus Procumbens, Dewberry, Icos. Polygy. Radix.

This is the Rubus Trivialis of Michaux. It is known by the common names of low, or running blackberry. The leaves and root of this species of Rubus, are frequently employed among the country people, as a remedy in affections of the bowels. I have witnessed the good effects of this article in the summer complaint of children. In this disease it will frequently afford relief after other medicines, belonging to this class, have failed. A decoction prepared from the root, may be given in the dose of a tablespoonful six or eight times in the course of the day. It may be rendered more palatable, by the addition of a little loaf sugar.

Geum Rivale, Water Avens, Icosand. Polygy. Radix.

This plant is known also by the common and local appellations of cure-all and throat-root. It is not improbable but what it has received the last name, in consequence of its having been successfully employed in the form of decoction and infusion, as a gargle and a drink in cynanche tonsillaris. It is powerfully astringent, and may be used in a variety of affections, requiring the aid of the different articles included in this important class of medicines.

gravel;" and Doctor Eberle observes, that, "it has been said that a decoction of the root of this plant is very useful in gravelly complaints." This writer also states, that, "this root has been much extolled by some late American writers for its efficacy in the cure of chronic dysentery, diarrhœa, and cholera infantum."

Actœa Racemosa, Rich-weed, Polyand. Monog. Radix.

This plant, which is an inhabitant exclusively of the woods, delights in a rich and prolific soil. The root possesses much astringency, and as such, we are informed by the celebrated and worthy Doctor B. S. Barton, in his collections towards the Materia Medica, &c. it was "used as a gargle with considerable benefit, in a putrid sore-throat, which prevailed in New Jersey, many years ago." Schoeph, supposes it to be pellens, sudorifera, anodyna, repellens, diuretica. This article I have noticed more particularly under the head of narcotics, where it appeared to be worthy of a place, on the account of the narcotic property that it seems to possess.

Orobanche Virginiana, Virginian Broom rape, Didynamia, Angiosp. Planta.

This species of Orobanche is very common in many parts of this country, and is generally found under the shade of the Fagus ferruginea. Dr. B. S. Barton, remarks, that "every part of the plant is considerably astringent," which is "evinced not only by the taste of the plant, but also by subjecting it to chemical examination." As an article of the Materia Medica, it has been recommended in dysentery; but how far it is entitled to attention, future experiments and observations will determine. From my own experience I can say nothing of a satisfactory nature.

Geranium Maculatum, Spotted Geranium, Monad. Decand. Radix.

There are perhaps few of our indigenous vegetable astringents that are entitled to more attention, and that may be more successfully exhibited, than the Geranium Maculatum. The root, which is the part that is used medicinally, may justly be considered a valuable astringent. It may be seen growing in almost every section of this country, in the various parts of which it is recognized by the names of Crow-foot, common Cranesbill, &c.

This article is stated to have been advantageously employed in the secondary stages of dysentery, diarrhœa, and in other evacuations, depending on debility. In cholera infantum it has been recommended. Doctor Samuel Harris, an aged and experienced practitioner of Maryland, informed me, that he employed an infusion of the root, exhibited in copious quantities, with the happiest effect, in a case of periodical hæmoptysis, after venesection, and the usual remedies had been given without effect. Doctor Mease speaks of its utility in stopping bleedings.* The bruised root is to be applied to the orifice. The injection of the infusion, has done some good in gonorrhœa; in this form it doubtless produces its effect, in the same way that we not unfrequently find to result from the use of the solution of the sulphate of zinc, and acetate of lead. In this manner it

* Philadelphia Medical Museum, Vol. 2—page 163.

was used by an empirick, who was celebrated among the peasantry in the cure of this disgraceful affection.

In affections of the throat, much advantage has been derived from its application in the form of a gargle, when combined with a suitable portion of honey.

It should, however, never be exhibited, in any one case, in which the adoption of the antiphlogistic plan would appear to be indicated, prior to its administration, least it might have a tendency to increase, rather than mitigate the symptoms. This rule should be invariably observed, in relation to the denomination of all the remedies that come under the administration of astringents.

Doses. The infusion and tincture, may be given in the quantity of from half an ounce, to two ounces; and the powdered root from half a drachm, to a drachm.

Geranium Robertianum, Herb Robert, Monad. Decand. Radix.

This plant possesses similar virtues to the one just noticed, and will be found useful in the same cases of diseases in which this article has been recommended. The doses, preparations, and the modes of exhibition are the same.

Comptonia Asplenifolia, Sweet-fern, Monœ. Triand. Planta.

A decoction prepared from this plant, has been recommended in diarrhœa, and cholera infantum. It

is not necessary to be very nice as to the quantity that should be given in each dose.

Quercus Rubra Montana, Spanish oak, Monœcia, Polyandria, Cortex.

A decoction of the Red Oak Bark, (as it is sometimes called,) I have found to be an excellent gargle in inflamatory sore throats; but it may be rendered still more useful by the addition of a little of the sulphus aluminæ. The powdered bark has also been found a useful remedy in checking the process of syphacelus, or gangrene. Perhaps it may be found serviceable in intermittents.

Myrica Cerifera, Candleberry Myrtle, Diœcia, Tetrandria. Radix.

From the experiments that have been made it appears that this vegetable production contains galic acid, tannin, and a small quantity of mucilage. It has not been sufficiently used as an article of the Materia Medica, to warrant the recommendation of its administration, with a view to the alleviation of disease.

It is more valuable on account of the wax that is procured from the berries, which is often used as a substitute for bees wax, in making candles, and for pharmaceutical purposes.

Dyospyros Virginiana, Persimmon, Polygam. Diœci. Cortex. Fructus Recens.

The Persimmon tree is common to many parts of our country. The fruit is esculent; and by many persons

thought to be delicious. The country people, in some parts, prepare a very agreeable drink from it, which they call persimmon beer.

The bark, as well as the fruit, when given imparts to the taste that sensation which accompanies every astringent. It has been found useful in intermittents, and in some diseases in which the use of astringent medicines are recommended. Perhaps a tincture prepared from the green fruit might be found useful in certain stages of diarrhœa.

DIVISION THE SECOND.

After having treated of the various articles belonging to the different classes, which have been included under the first division of general stimulants; we now come to notice those which properly belong to the present division, which embraces the substances, the action of which is more local; or, which is generally displayed upon particular organs, or situations. The classes belonging to this division, are as follows: Emetics, Cathartics, Emmenagogues, Diuretics, Diaphoretics, Expectorants, Sialagogues, Errhines, Epispastics and Rubifacients, including Escharotics; which has been taken from the third division of the chemical remedies, and placed under the present head.

It will very readily be perceived, even upon a superficial view of the operation of the medicines belonging to the above classes, that they have with propriety been denominated by Murray, local stimulants, in consequence of "their local operation giving rise to increased secretion, or increased evacuation."

CHAPTER VIII.

Emetics.

Murray, considers emetics such "substances which excite vomiting, independent of any effect arising from the quantity of matter introduced into the stomach, and independent of any nauseous taste or flavour; or of any narcotic or acid power."

This view which he has taken of the subject, of necessity goes to expunge from the list of emetics, all the substances, which excite emesis; not, from a certain modified stimulant impression which they produce on the stomach, by which vomiting is induced; but from the quantity by which a distention is effected, which not unfrequently is the cause of an evacuation of the contents of this viscus.

Considerable is the number of substances, which induce vomiting, particularly, when the stomach is in an

irritable state; from the unpleasant gustation which they produce, or in consequence of their flavour being exceedingly disagreeable. Even food, frequently will excite vomiting, when the stomach is morbidly affected; and sometimes the idea only, of partaking of a particular kind, which has been much admired, will under the influence of disease excite emecis. Hence, no article should strictly be considered as emetic, unless this effect be the result of the peculiar impressions which it invariably produces, when viewed in an abstract point of consideration, from the circumstances first cited.

That emetics act upon the stomach by a stimulant impression which they induce, would appear, from the circumstance of many of them exciting a greater or lesser rubifacient effect, when applied to the surface of the human body. This is the case not only with some of the articles which are selected from the mineral; but also from the vegetable kingdoms: and others, when applied to more delicate structure producing analogous consequences. It may be asked why it is, that cathartics, which operate as stimulants, do not induce vomiting? This question may be answered, by saying, that they are slower in exciting this action, than emetics; and they therefore pass through the stomach before a sufficient impression is induced, in order to affect the stomach sufficiently to bring about vomiting; and for the same reason very small doses of emetic medicines pass through this viscus by exciting some nauseau, which cathartics often do, and then increase the evacuation by stool.

Upon the subject of the effects arising from the administration of emetics, it may be remarked, that they evacuate the contents of the stomach, as well as the contents of the duodenum, and sometimes even the jejunum. They produce a general agitation of the whole of the body in conjunction with the nervous system; which is succeeded by a relaxed state of the surface of the body.

Emetics are competent to the production of very beneficial results, under the various circumstances in which their use may be indicated:

"1. Their producing agitation of the body, whence they may be employed to restore uniform circulation; to promote increased lymphatic absorption; to remove obstruction in the sanguiferous system. 2. From their producing evacuation by vomiting, whence they may be used, to discharge noxious matters taken in by the mouth; to discharge morbid accumulation of secreny matters lodged in the stomach; to evacuate serous accumulations. 3. From the affection of the nervous system which they occasion; whence they may be employed, to restore excitement to the nervous system in general, and obviate inordinate affections of the nervous energy"

Whether the contents of the stomach are evacuated in consequence of the contraction which is affected by its muscular coat, by the peculiar operative influence which emetics exert; or whether this effect is produced by the diaphragm in conjunction with the abdomi-

nal muscles; or, any other action in the muscular parts contiguous to the stomach, is a matter of minor importance to understand, in as much, as, it is calculated to convey no very great degree of useful practical information. The idea, however, which attributes the evacuation of the contents of the stomach, to a primary action in the muscular coat of this important viscus, which is aided by the diaphragm in connection with the abdominal muscles, may be conceived as being the common received opinion; in as much, as, the two last mentioned parts appear always to be more or less concerned in the operative evacuating effects of emetics.

Although emetics are calculated to be succeeded by the happiest effects, when administered under circumstances in which they have, in innumerable instances, proved useful; it is to be feared, that they are sometimes improperly employed in the primary stages of bilious remitting and intermitting fevers, by even some medical practitioners, who give them with the view of throwing up the bile, from the stomach, which it is supposed contains a very considerable quantity of this fluid. This is, perhaps, not the case in one eighth of the subjects who are attacked with those diseases; and, therefore, the administration of this class of medicines, is only calculated to throw into the stomach, from the duodenum, the very substance which is intended to be removed by exciting vomiting.

In relation to the sentiment, of the stomach seldom containing any portion of bile; it may be remarked,

that, it is an opinion, which is entertained by the most erudite and distinguished members of the medical community, and which has not only been enforced in their lectures, but likewise in their writings. Cullen says, in writing upon this subject, that, "the most clear proof of the inverted motion of the duodenum is, that in vomiting, and especially after repeated vomiting, a quantity of bile seems to be poured from the duodenum into the stomach, and is, in consequence, thrown out by the mouth."

He further more says, "I must remark, that both the vulgar, and even physicians, have been ready to suppose, that the bile thrown up by vomiting, existed previously in the stomach itself, and in some instances it may have been so; but it is more probable that it has been brought from the duodenum, and even from the gall-bladder and biliary ducts."

And he supposes, "that if the bile had been previously lodged in the stomach itself, it might have appeared in the first vomitings as well as in the last: but it happens, in most instances, that the bile is thrown out by the mouth only after repeated vomitings, and often after repeated strainings in the organs employed in vomiting."

A late, and very respectable writer, on the Materia Medica and Therapeutics, (Doctor Eberle,) whose ideas correspond with those of Doctor Cullen, on this part of the subject, with no inconsiderable degree of correctness, observes, that, "the bile, being therefore

more copiously thrown into the duodenum, during the first efforts of vomiting, is readily conveyed to the stomach, both by the inverted motion of the intestine, and the pressure of the abdominal muscles ;" and furthermore, that, " it is obvious, from this, that the first contents of the stomach may be thrown off without any admixture of bile, and yet, after one or two acts of vomiting, by which the contents of the duodenum are brought into the stomach, this fluid may be copiously discharged ;" and " when, therefore, we do not observe any bile thrown off, until several full evacuations have occurred, we may conclude that it did not previously exist in the stomach, but was brought into it by the preceding acts of vomiting."

The learned Dr. Chapman, in the most conclusive and forcible language, states, that, "it has been maintained, that the bile exists in the stomach previously to the inverted peristaltic motion. This may sometimes be true, though, were it uniformly the case, the discharges would take place in the first efforts of puking, which rarely happens."

The remarks which have first been quoted, are of the most satisfactory and conclusive nature in relation to the support of the sentiments, of the nonexistence of bile in the stomach in the general; not under the circumstance of health only, but also under the influence of diseased action. Then why should emetics generally be resorted to in certain bilious affections, with a view of unloading the stomach of the bile which it is supposed

to contain in greater or less quantities, when this article is rarely present? And why should the continued use of emetics be persevered in; when they are only calculated by their peculiar action, to throw from the duodenum into the stomach, the very thing, the intention of which was to be removed by the act of vomiting? It is greatly to be apprehended, that some physicians err in this respect; and from the views which they have taken, of bile being present in the stomach, not only while the system is labouring under bilious affections; but also in the full enjoyment of health; they have been led to recommend the administration of emetics, frequently repeated, in order to relieve the stomach of the superabundant portion of bile which is supposed it contains. I am aware, that this is the opinion of some of the medical practitioners of the present day, who found their practice upon the views which they have thus formed, from its having been stated to me more than once; and very lately by a medical practitioner, who thinks more highly of his own opinions than he does of those which have been advanced; "that there is always healthy bile thrown into the stomach, to help digestion," and that "when this is increased in too great quantities, it produces bilious affections." Therefore, he always premises emetics, with all who are of the same opinion, to remove the bile which is the supposed cause of disease.

Within ten years practice I have not perhaps prescribed more than eighty emetics, in those cases of dis-

ease; and then they have only been recommended, particularly in the intermittent form of the disease, previous to the expected recurrence of the chill, and that with a view of preventing its occurrence. I have, however, found the various tonics sufficiently adequate to its removal, in conjunction with apispastics under the circumstances of a debilitated type of the affection; and when it exists in full habits, in which the antiphlogistic plan is indicated, the use sometimes of venesection; but more particularly of cathartics and eccoproctics, I have advantageously employed, previous to the exhibition of those medicines which are calculated by the tonic impressions they induce to place the system in a situation to overcome the disease.

Emetics, although disadvantageously resorted to, at times, are nevertheless, articles which are calculated to be productive of the happiest consequences, in the diversified affections in which they have beyond doubt been directed with the most unequivocal and beneficial results.

In the management of cynanche trachealis, or croup, their administration is often necessary, particularly, after the use of the lancet has been ineffectually had recourse to. In the mild attacks of this unpleasant malady, emetics in the generality of cases will be found sufficiently competent to its removal; but their salutary operation will often be facilitated by giving them in conjunction with calomel, so as to produce an operation *sursum et deorsum*. However in the more violent

and aggravated forms of the disease, venesection, when carried to a sufficient extent to induce *syncope*, will often relieve the distressing symptoms like a charm, and the administration of a dose of calomel or two, remove it entirely. Bleeding in the more aggravated forms, to the extent just mentioned, should be had recourse to, as a remedy of primary importance.

It however, appears from the observations of Doctor Ferriar, that he found it advisable to resort to the use of the lancet in every instance in which he was called to prescribe in this disease; for he remarks, that, "in all the cases of croup which I have seen, I have found it necessary to bleed immediately, and when I have seen the patients sufficiently early to entertain hopes of saving them, I have directed the evacuation to be continued, so as nearly to produce faintings." This he says, "is the essential point of the cure, without which no relief can be effected. Even if the patient should not be seen till the day succeeding the attack, it is proper to bleed *ad deliquium*, if the subject be plethoric and the difficulty of breathing and restlessness be great."

Emetics, have also been advantageously employed in cynanche tonsilaris, in cynanche maligna and in the cynanche laryngea; but in those cases, particularly, the former and the latter, their use should in the majority of instances be preceded by venesection, which in the most cases will be found competent to their removal, when carried sufficiently far to induce syncope.

In cynanche maligna, by resorting to their use in the

early attack of the disease, they produce their good effects by throwing off certain portions of acid matter, which, were it permitted to pass into the bowels, would be productive of diarrhœa, an occurrence that is much to be dreaded in consequence of the debilitating effects it induces; which undermines the vital energies, and places the life of the patient often in jeopardy.

In relation to their use in menorrhagia, I know but little; but upon creditable testimony they have been recommended as being worthy of notice.

What has been said in attestation of their efficacy in the treatment of *mania a potu*, I know nothing; but, from the several writers who have spoken in their favour, every reason should be entertained of their being indicated in the generality of the cases of this distressing malady.

In *gutta serena*, emetics may be employed, when the disease is supposed to arise from gastrick derangement. In three cases which came under my professional consideration, and in all of which I directed the use of the pulv. ipecacuanha, every morning for several days in succession; one became perfectly relieved; the second partially recovered; and the third appeared to receive no benefit.

I can say nothing in the support of their efficacy in dysentery as it occurs in this country; for I have never used them. My whole dependence, in the primary stage of the disease, has been placed in the use of the lancet; the exhibition of calomel in doses sufficiently

large to procure natural evacuations; the occasional use of the castor oil, the latter of which I sometimes prescribe, not only with a view of facilitating the operation of the calomel; but also, to allay irritation, which often arises from acid secretions, by its sheathing the coats of the bowels; and thereby obtunding the operation of these acid secretions. Other eccoproctics I sometimes employ, when no *tormina* is felt.

In the *purtussis*, more commonly denominated the hooping-cough, emetics may be considered as useful palliatives. I have however, resorted to the use of the calomel in the generality of instances, and with no small degree of success, when evidences of much arterial excitement is displayed, in doses frequently repeated, in in order to increase the evacuation by stool. It is not only calculated to diminish excitement in this way; but in consequence of its frequently inducing nausea, a double effect is accomplished. Venesection I have sometimes resorted to, under the circumstances as just mentioned with the best effects.

In asthmatic affections, which are not of rare occurrence, emetics have been recommended as being particularly beneficial; for my own part I can only remark, that when the affection occurs in plethoric habits, I have found copious bleeding productive of the best results; and more particularly, when succeeded by the administration of calomel combined with the jallop; with a view of procuring a free operation of the bowels. when this state of the body is not connected with its

attack, and when asthma exists under the circumstance of a relaxed, or debilitated state of the system, I have often noticed the very salutary effects arising from the exhibition of antispasmodics in conjunction with expectorant remedies.

Doctor Eberle, however, remarks that in this disease "emetics are of unquestionable advantage. They not only assist materially in expelling the viscid mucus from the bronchia, but operate in a direct manner in facilitating the transmission of the blood from the right to the left side of the heart, the impeded course of which forms, perhaps, the chief source of distress in this and other similar affections. That the operation of an emetic produces this effect, is evident from the circumstances which take place during the act of vomiting. During this process the diaphragm is drawn downwards, by which the thoracic cavity is enlarged, and the lungs are in a full state of inspiration, and therefore expanded to the utmost degree. The necessary consequence of this is, that the blood which had congested in the pulmonary arteries, right side of the heart, and large venous trunks, in consequence of the previous inadequate expansion of the lungs, is now, during the act of vomiting, permitted to pass on with freedom to the right side of the heart. And hence, in part, the temporary relief almost invariably obtained from full vomiting in this disease."

Professor Chapman says, "emetics are advantageous in asthma." The distinction instituted in this

disease, he says, "of *humoral* and *spasmodic*, may, in some instances, be correct—and the two species occasionally exact some modification of practice. Yet, as to the use of emetics, I suspect the distinction need not be very nicely observed. They generally afford relief in the paroxysm; and, timely administered, will sometimes prevent the recurrence of it."

In the various febrile affections emetics are most valuable remedies. Upon this subject, I have, it will readily be perceived, said but little.

Emetics should be avoided when there is any original affection of the brain; and in very corpulent habits. In affections of the heart and arteries, particularly of the larger arteries. In aneurisms of those vessels; and in very delicate habits, particularly if this state be connected with a plethoric state of body. Emetics cannot under the existence of aneurismal affection of the larger vessels be productive of any good results; but rather the contrary; even, after venesection has previously been had recourse to; as also, in idiopathick dieases of the brain.

Their inordinate action may be checked by giving a small dose of laudanum; or, some cordial drink should these not be found competent; an epispastick applied over the region of the stomach, will in almost every instance be found sufficiently adequate to check their operation; and to tranquilize and compose this important organ.

Emetics.

Hex Vomitoria	South-sea Tea
Apocynum Androsœmifolium	Milk-weed
Nicotiana Tabacum	Tobacco
Nicotiana Rustica	Common green Tobacco
Asclepias Incarnata	Silk weed
Erythronium Americanum	Common Erythronium
Dirca Palustris	Leather Wood
Sophoria Tinctoria	Wild Indigo
Phytolacca Decandra	American Nightshade
Euphorbia Ipecaunha	American Ipecacuanha
Euphorbia Corollata	Large flowering Spurge
Gillenia Trifoliata	Indian Physick
Gillenia Stipulaceœ	Small flowering Indian Physick
Sanguinaria Canadensis	Puccoon
Polygala Senega	Seneka
Lobelia Inflata	Emetic-weed
Eupatorium Perfoliatum	Bone Set
Anthemis Cotula	Wild Chamomile

Hex Vomitoria, South-sea Tea, Tetrand, Tetrag. Herba.

The plant under consideration, is known in some parts of the United States, by the names of evergreen, cassine casseena, &c. It is reported to be an active emetic. It is however, seldom, if at all resort,

ed to, in practice, with a view to its producing this effect on the animal economy.

Apocynum Androsæmifolium, Milk-weed, Pentand. Monog. Radix.

This article I have noticed under the head of tonics, in which place it is undoubtedly worthy of a conspicuous situation.

The powdered root of this species of apocynum, in doses of from thirty to forty grains, given at once, is a pretty good emetic; being certain, prompt, and effectual in its influence on the coats of the stomach; rarely producing the unpleasant vertigs, and other effects, that too frequently result from, and accompany the use of the administration of some of our indigenous articles, belonging to this class of remedies.

When exhibited with a view of producing effects analogous to the pulv. epecacuanha in the form of the pulv. doveri, the following formulæ may be adopted.

℞. Pulv. Cort. Rad. Apocy. Audrosæ ʒi.
Pulv. Gum. Opii ʒss.
Pulv. Nitras Potassæ ʒss.
M.

In cases of acute rhumatism, when, after venesection has been freely resorted to, with the use of suitable cathartics, a dry surface still continues, this formula, given in doses of ten grains, will seldom fail to induce a general diaphoresis. I have in my note book two cases

of pneumonia, in which venesection had been liberally used; and the pulv. conv. julap. cum sub. mur hyd. until the bowels were freely evacuated, without any visible relaxation upon the surface (though some alleviation of the pain), when I thought it advisable to give ten grain doses every three hours, which ended in a profuse and copious diaphoresis. Also one case of phrenitis, in which I used it with the most decided benefit.

Nicotianum Tabacum, Tobacco, Pentandria, Monogynia. Fol.

It is a circumstance, with which the most trivial observer is acquainted; that chewing, or smoking of tobacco, generally induces vomiting in persons who are unaccustomed to its use.

It is undoubtedly an emetic of considerable activity, when exhibited internally; in consequence of which circumstance it is rarely employed in this way in practice; but as an external application, in the form of a poultice to the epigastrick region, in cases requiring the most prompt and speedy vomiting. When large doses of opium, or laudanum have been taken in order to destroy life, applied in this way, it has been found competent to excite emesis when the most active emetics have failed.

Nicotiana Rustica, Common green Tobacco, Pentand. Monogynia. Fol.

This plant is also emetic, possessing rather less activity than the one just mentioned; which consequently renders it a safer remedy.

Asclepias Incarnata, Silk-weed, Pentandria, Digynia, Radix.

This article has lately attracted notice as an emetic. A certain Doctor Anderson, who graduated in the University of Maryland, it appears made it the subject of his thesis. A physician, however, at the eastward, perhaps, Doctor Fully, seems to have noticed it prior to this gentleman; as a useful emetic and cathartic. In this respect, it does not appear to differ from the asclepias asthmatica, which is a native of the Island of Ceylon; and which is represented upon respectable testimony to be slightly emetic and cathartic. Of its medicinal virtues I am entirely ignorant.

Erythronium Americanum,* Common Erythronium, Hexand. Trigynia, Radix, Folia.

This plant has a bulbous root; forty grains of which, when properly dried, is sufficient to excite emesis under ordinary circumstances. The leaves also possess this property; but, perhaps in a less degree. Sufficient ex-

* This is the *Erythronium Lanceolatum*, of Pursh; the *Erythronium Flavum*, of Smith; and the *Erythonium Congifolium*, of Poiret.

periments, however, have not been made, to fix its character in point of practical usefulness.

Dirca Palustris, Leather-wood, Octand. Menog. Cortex.

The bark of this production has a disagreeable taste; which is succeeded by an acrimonious sensation. Professor Bigelow, in noticing its emetic powers, says that "if taken in the quantity of six or eight grains, it produces a sense of heat in the stomach, and at length brings on vomiting." I know nothing of this article from experience.

Sophora Tinctoria, Wild Indigo, Decand. Monogy. Radix, Planta.

This is the podalyria tinctoria of Michaux; it is sometimes called indigo-weed, horsefly-weed, &c. It is stated to have been found to operate powerfully as an emetic, but it seems to be more particularly deserving of notice as an antiseptic; and perhaps it is by no means inferior to many medicines of this kind

Phytolacca Decandra, American Nightshade, Decand. Decagy. Radix.

This article, which is known by even the most common observer, has received the appellations of poke, poke-weed, garret, skoke, cancer-root, &c. The root as an emetic, is supposed by some writers, to be rather analogous in its operation to the callicocca Ipecacuanha.

Doctor George Haywood exhibited the powdered root, in the dose of a scruple, in thirty cases and he states, that he was led to observe, "that the quantity has always operated, excepting in one case as an emetic and cathartic, usually three or four times thoroughly, though never severely; that in general it commences its operation on the stomach in an hour, and rarely continues longer than four."*

Professor Rigelow says, that "in its medicinal properties the root of the phytolacca decandra approaches nearer to ipecacuanha than any American vegetable I have hitherto examined. From abundnat experience the results of many made in dispensary practice; I am satisfied that when properly prepared it operates in the same doses, and with the same certainty, as the South American emetic."

I have never made use of the root, with a view of ascertaining how far it is entitled to consideration, on the account of its emetic virtues: but the juice and extract prepared from the berries, I have made the subject of practical investigation, in order to test their efficacy in chronic rheumatism.

In the fall of 1820, whilst on a visit in the country, I procured a quantity of the berries of the plant, sufficient to obtain several quarts of the juice. By the process of evaporation, five quarts of this latter afforded me one pound and seven ounces of the extract. This prepara-

* New England Journal of Medicine and Surgery, vol. 6, page 313

tion I have occasionally administered internally in cases of chronic rheumatism, though with less success than the simple juice. Of seven cases, which from their nature were thought worthy of particular attention, and in which the extract was exhibited in doses of five grains three times a day, three only were cured. Whilst on the contrary, of the same number of patients to whom I administered the juice in the dose of a table-spoonful every four hours, I succeeded in removing the symptoms of this troublesome and distressing malady in five.

When the Datura Stramonium cannot be readily procured, I would recommend the juice of the berries of the Phytolacca Decandra, inasmuch, as it appears from my own experimental observation, to be little inferior in point of efficacy, and promptness of effect, to this very valuable and important remedy.

The operation of this preparation, cannot upon correct principles I conceive, be alleged to any narcotic power that is exerted upon the system in consequence of its administration; inasmuch, as, no symptoms upon which the character of this set of remediate agents is founded, succeeds its internal use. I am therefore, led to attribute its beneficial results, to a general alterative power that it exerts upon the animal economy.

The juice may be preserved from fermentation, and kept fit for medical purposes throughout the summer

months, by the addition to every quart, eight ounces of diluted alcohal.

Euphorbia Ipecacuanha, American Ipecacuanha, Dodecand. Trigynia. Radix.

This species of Euphorbia, delights in a sandy soil, and may consequently be seen in the various sections of this country, in which this soil is to be found. It is known by a variety of common and local appellations; such as, Indian Physic, wild Ipecacuanha, Spurge, &c.

This article is a good emetic, when given in the dose of the powdered root, of from ten to fifteen grains. By those medical practitioners of our country that have made use of it, it is supposed to be a pretty good substitute for the ipecacuanha of the shops. Professor W. P. C. Barton states, that, it may be used instead of this article in the various combinations into which it enters.

Euphorbia Corollata, Large flowering Spurge, Dodec. Trigy. Radix.

The plant that is the subject of the present article, we are informed by Pursh, grows in dry fields from Canada to Carolina. It is also quite common in some parts of Virginia. In the sandy lands of Maryland, it is seen in the greatest abundance; and particularly in Anne Arundel County, where it is recognised by the common

appellations of milk-weed, snakes-milk, ipecacuanha,* and indian physic. It is rarely found growing in the woods; but in fields that are cultivated every two or three years; and the usual method that is resorted to in order to destroy bluegrass, such as plowing and harrowing, is only calculated to increase its growth rapidly. Animals never as yet, have been found to eat it; but carefully avoid it whenever it is an inhabitant of fields in which they pasture.

The stalks which arise from the common trunk of the root of this species of euphorbia are sometimes as many as thirty, and from this down to a single one. These stems, which arise from a branching root, are erect, and not unfrequently exceed three and four feet in height. The largest roots that I recollect seeing, have measured from an inch to two inches and a half in circumference.

The root of the corollata possesses a very great advantage over most remedies, in its not possessing an unpleasant taste; and being succeeded by a slight sense of heat which passes off in a few minutes, without producing any uneasiness.

I have made use of the powdered root in practice, for some time past; and I am bold in saying, that I believe it to be equal to the Cephælis Ipecacuanha.

* The name of Ipecacuanha which has been given to this plant, by the country people, doubtless is a very proper one; inasmuch as Ipecacuanha, in the language of South America, signifies vomiting root.

As an emetic it is mild and certain in its operation, rarely occasioning pain or spasms, and exciting little previous nausea or giddiness: possessing an advantage over some other medicines of this class, that when it does not prove emetic, it passes off by the bowels.* The dose of the powdered root is from fifteen to twenty grains; but it may be taken in larger doses than this, without its being attended with any violent effects. Its activity is very little impaired by boiling. Combined with opium, in the form of the pulv. dov. it is a valuable diaphoretic. The watery and alcoholic extracts may be given in the dose of from five to eight grains: they differ very little in the force with which they act. The Vinum Euphorbia Corrolata, acts with as much certainty as the Vin. Ipecac. the manner of preparing it is as follows:—R. Radix Euph. Corrol. one ounce: Vin. Hisp. Alb. one pint. The dose is an ounce for a grown person.

By separating the epidermis and corticle, from the ligneous part of 893 grains of the recent root, and weighing of them accurately, the result was as follows: epid. 84 grains, ligneous or woody part 189, and 620 of cortex, or bark. So from the above examination, it appears that the root is made up of nearly two thirds of the most active part, which is the bark.

* This species of Euphorbia is used as an emetic in some parts by the country people. It is highly esteemed by them as a medicine, in the cure of dropsey and intermittent fevers.

From 2160 grains of the recent root, I obtained 102 grains of watery extract; and from the same quantity of fresh root, after digesting a suitable time in alcohol, I obtained 123 grains alcoholic extract.

Gillenia Trifoliata, Indian Physic, Icosand. Pentag. Radix.

This plant is sometimes called, Spiræa Trifoliata. It is also known, by several common names; such as ipecac. reumont-root, &c. The root, which is the part that is used for medical purposes, is a safe and efficacious emetic, when properly dried in the shade, and given in the dose of thirty grains. In one instance, I gave it a trial on myself, and it was perfectly mild in its operation. The country people are in the habit of taking every half hour, a teacup-ful of a strong infusion, until emesis is brought on.

We are informed by Dr. B. S. Barton, "that along with its emetic, it seems to possess a tonic power;" and "accordingly it has been thought peculiarly beneficial in intermittent fever."* Doctor Eberle, in his remarks on this subject, observes, "from my own experience, with this plant, which has not been inconsiderable, I am led to regard it as very little inferior to the officinal ipecacuanha, as an emetic. Like this latter article, it is a safe and efficacious vomit."† He has "employed it very frequently as an emetic, in the treatment of in-

* Collections for an Essay, &c. part the first, page 27.

† Materia Medica and Therapeutics, vol. 1. page 67.

termittent and bilious fevers, and it very seldom disappointed" him "of the desired effect."

It is to be much regretted, that the apothecaries are not in the habit, generally, of keeping this, as well as many of our useful native plants for sale.

Gillenia Stipulacea, Small flowered Indian Physic, Icos. Pent. Radix.

The root of this species of Gillenia, appears not to have been sufficiently attended to, to enable us to give any information as to its real utility as an emetic. It is said to possess emetic powers to rather a more considerable extent than the article just noticed. It is hoped that the attention of some of the members of the profession, who reside in the western states, in which it grows, will be given to this plant, with a view to ascertaining its medicinal application, in the diseases in which it may be calculated to prove beneficial.

Sanguinaria Canadensis, Puccoon, Polyand. Monog. Radix.

This plant is called Blood-root, Red-root, American Tumeric, Indian paint, Puccoon-root, &c. It delights in a rich and fruitful soil. It is a powerful emetic, and should consequently be given with great care. It is rarely exhibited with this view. The dose of the powdered root is from ten to fifteen grains.*

* Professor Bigelow has ascertained from examination, that, the root of this production contains a peculiar resin; a bitter principle;

Polygala Senega, Seneka, Diadelph. Octand. Radix.

This plant is a valuable indigenous vegetable production. It acts as an emetic, when used in large doses; and will be found a valuable remediate agent, in the removal of cynanche trachealis; when exhibited in the form of infusion, frequently repeated until the desired effect is produced. It will be taken into consideration more particularly in the subsequent part of this work.

Lobelia Inflata, Emetic-weed, Syng. Monog. Folia.

This plant is sometimes called Lobelia Emetica, Indian Tobacco, &c. The leaves possess active emetic properties, and should be exhibited with very great caution. The powdered leaves may be given in the dose of about eight grains every twenty minutes, until it operates.

an acrid principle; a fibrous or woody part, as also a portion of fecula; and likewise, that alcohol comes off of the root by distillation, strongly impregnated with its colour and taste; and that the acrimony which it possesses, resides in the resinous principle, and is communicated in some degree to water.

I am aware, that the tinctures prepared from this root, lose their medicinal virtues, when kept for any considerable time: and that they should be prepared annually, on the account of the acrid principle passing off gradually when extracted by a spirituous *menstrum*. One of my former pupils, Doctor L. F. X. O'Brien, has from repeated experiments which he has made, ascertained that the seeds of the sanguinaria canadensis, does not possess in the least degree any narcotic power.

Eupatorium Perfoliatum, Bone-set, Syngen. Polygam. Æqualis. Folia.

In relation to the utility of this production as an emetic, I can say nothing from my own observation. There are however, some respectable writers, that have spoken of its effects in this way; Doctor Ansel W. Ives, considers, "it a valuable emetic in the early stage of autumnal intermittents;"* he likewise says, "the warm decoction in large doses, operates with great certainty and safety as an emetic." Doctor Eberle, states, that when "taken in large doses it excites vomiting and purging."†

Anthemis Cotula, Wild Chamomile, Syng. Polygam. Superflua. Herba.

A strong infusion of this plant will excite emesis. A weak infusion may be made use of to facilitate the operation of emetics.

* Vide his edition of Paris's Pharmacologia, vol. 2, page 143.
† Eberle's Materia Medica and Therapeutics, vol, 2, page 235.

CHAPTER IX.

Cathartics.

Cathartics are those medicines, which, by a peculiar stimulant impression which they induce, preternaturally increase the peristaltic motion, and, consequently evacuate the intestines downwards; or, thereby induce what is generally denominated purging.

The remedies properly belonging to this class, perhaps, admit of a more extensive range of application, than the substances which are included in any of the other classes which enter into the Materia Medica. Such, indeed, is their general acknowledged utility, that there appears to be but few cases of diseases, in which they may not be employed with greater or less advantage.

Professor Chapman says, "the intimate connexion existing between the whole of the alimentary canal, and other portions of the complicated structure of the animal machine, gives to them an extensive influence, and renders them among the most important means in the practice of our profession."

These remedies differ in no inconsiderable degree in relation to the evacuating effects which result from their employment. This is very obvious from the circumstance of some of them generally operating mildly, and without producing any *tormina*; while others

which are equally gentle in their operation, produce considerable griping. Others are more drastick in displaying their evacuating effects; and some again produce but one or two evacuations, while another set continues to act for a considerable length of time; they also operate on different portions of the bowels. It is not unlikely, but what all cathartic medicines excite more or less the intestinal exhalents into action; but, this effect is more evident when the saline articles of this kind are exhibited, which gives to the alvine discharges a fluidity of consistence, that is rarely discoverable in the employment of many others, particularly the calomel, the rheubarb, with several more articles which have been embraced in the present division of therapeutick remedies.

The learned Doctor Eberle remarks, that, "independent of the different degrees of evacuant powers which these remedies possess, they also differ essentially from each other in relation to the particular part of the intestinal tube upon which they more immediately exert their actions, as well as in the nature and appearances of the discharges which they produce. Thus," says he, "gamboge, calomel, and a few others, act more particularly upon the upper portion of the intestines; castor oil, colocynth, &c. possess a more extensive range of action; while aloes acts almost entirely upon the lower portion of the bowels."

The difficulty which presents itself in relation to giving a satisfactory explanation of the cause which

gives rise to the action that cathartic medicines display upon the different parts of the alimentary canal, is in a very great measure removed, by the happy reasoning of John Ayrton Paris, M. D. &c. &c. who appears to have taken a strikingly correct view of this interesting subject. He remarks, that, "it is probably owing to the diversity which exists in the solubility of the active elements of purgatives, that so great a diversity occurs in their operation." He also observes, "it is for instance easy to conceive that a medicine may act more immediately, and specially on the stomach, small or large intestines, according to the relative facility with which its principles of activity enter into solution; that those which are dissolved before they pass the Pylores are quick and violent in their effects, and liable to affect the stomach, as is exemplified by the action of *gamboge*, &c. whilst some resinous purgatives on the other hand, as they contain principles less soluble, seldom act until they have passed out of the the stomach, and often not until they have reached the colon. *Colocynth* has a wider range of operation, since its principles of activity reside both in soluble and insoluble elements. *Aloes* again, being still further insoluble, pass through the whole alimentary canal before they are sufficiently dissolved, and act therefore more particularly upon the rectum, by which they are likely to produce piles, tenesmus, and the various effects which so usually attend their operation." He furthermore says, that, "the characteristic effects

of *rhubarb, senna,* saline *cathartics,* and indeed, all of the individual substances which compose the class of purgative medicines, will also admit of a satisfactory explanation from the application of these views." *

From the administration of cathartics, a variety of changes are produced throughout the complicated structure of the animal body, independent of their merely evacuating the intestines ; by their peculiar action they are calculated to lessen the quantity of the circulating fluids; but more particularly the serosity ; they also effect a change in the balance of the circulation, and a diminution of the perspiratory process. In relation to their effects upon the nervous system, they may be supposed to increase the excitement generally of the nervous energy. Not a few are the diseases in which this set of remedies may be successfully employed. When pain in the head, connected with languor, and accompanied with general uneasiness, results from an increased accumulation of feculent matter, particularly in the small intestines, some degree of pressure is consequently made upon the descending aorta, when the blood is increased beyond the ordinary quantity in its ascending branches, which naturally produce these unpleasant symptoms. Their utility under circumstances of this kind, seems very evident ; for by their evacuating the alimentary canal, they remove the pressure from the aorta, and thereby relieve the un-

* Vide his Pharmacologia, pages 103—104.

pleasant symptoms, by a free circulation again taking place throughout the *aorta descendens*.

In dysentery; a disease of very frequent occurrence, and one indeed, which not unfrequently terminates unfavourably, this set of remedies may be exhibited with the happiest effects; but, calomel exhibited alone, or in conjunction with some other active purgative, may in the generality of instances, be very advantageously given; inasmuch, as the more active purgatives seem to stimulate the muscular fibres, more particularly of the *colon*, than those of any other part of the intestines, by which they evacuate the contents more effectually of its cells. But calomel in this affection, is perhaps upon the whole, rather preferable, when followed by some of the demulcent tribe of purgatives: because by its peculiar operation, it may sometimes connect the functional derangement of the liver, which is often connected with the malady under consideration; while this set of purgatives by sheathing the internal surface of the intestines, obtund the vitiated secretions, which often act as a source of great irritation, and thereby, in some measure, mitigate the distressing uneasiness of the bowels. Diarrhœa, which is an affection of very frequent occurrence, very often is the consequence of acrid bile, or other vitiated secretions in the intestines, in conjunction with crude injesta. This disease, when it owes its origin to these, or similar causes, in the majority of instances, may be more effectually and promptly removed by the proper selec-

tive administration of cathartics, than with any other set of medicines. This must be obvious to every intelligent physician, who has paid the necessary attention to the treatment of the various cases of diseases which not unfrequently claim his professional consideration.

The cholera infantum, may be more successfully managed by these remedies in its first stage, than with any others.—The most useful evacuant remedy however, may be considered the calomel.—In the cholera of adults; the administration of some opiate to tranquilize and compose the stomach, and thereby check the vomiting, will always be necessary previously to resorting to the use of cathartics; which are indispensable articles to the complete removal of the disease.

In the *Cynanche Trachealis, Tonsillais, Parotidæ,* and *Maligna,* this class of remedies judiciously exhibited, will be found competent to the production of very satisfactory results. In each of these affections, I have employed them with decided benefit. In the latter disease, I have however found the milder articles of this kind to answer a better purpose. The principal object I have always had in view of affecting by the administration of laxatives in this affection, has been to remove the irritative contents of the bowels, which I have invariably found to act as a source of great aggravation to the disease, and consequently act as an effectual barrier to the salutary operation of other remedies that are employed. James Hamilton, M. D.

in his valuable work on "purgative medicines in several diseases," observes, "an exhausting diarrhœa or dysentery, it is said, are troublesome and common consequences of cynanche maligna; on which account purgatives are conceived to be injurious. But I cannot see the force of this objection. For were I to devise a mean of preventing these consequences, or of removing them when they had taken place, none more likely would occur to me, than the use of those very purgatives, which are thus so dogmatically proscribed; while I employed them however, I would carefully limit their effect to the express purpose of unloading the bowels, and shun the inconvenience of inducing weakness by full purging." During the use of mild purgatives in this species of cynanche, it will be necessary to support the system, while it is under their operation.

In the febrile affections which are characterized by great increased vascular excitement, the administration of the drastic cathartics, with a view to evacuate the intestinal canal both promptly and copiously, may be considered amongst the best and most effectual remedies, when viewed abstractedly from the advantages which venesection affords; for although the increased arterial action may in a great measure be removed by the use of the lancet, yet if the bowels are not relieved of their irritative contents, the febrile action will continue in defiance to every other remedy—cathartics are therefore indispensable remedies; their use is not

confined alone however to fevers of this type, but may with safety and success be employed in those connected with a debilitated state of disease: or to use the language employed by the votaries of medicine, in the typhus fever, I am well aware that there are many medical practitioners who are of the opinion, that cathartics are inadmissible in this form of fever, in consequence of their supposing that they are calculated to aggravate or increase the symptoms of debility already existing. This might, in the majority of instances, be the result of their indiscriminate employment. In fevers of a debilitated type, the use of the milder articles of this class, is seldom contra-indicated—they produce their beneficial effects by unloading the bowels of their contents, which act as a source of great general irritation. Doctor Hamilton in speaking of their successful administration, observes, "I have directed a strict attention to this practice for a long time, and I am now thoroughly persuaded that a full and regular evacuation of the bowels relieves the oppression of the stomach, cleans the loaded and parched tongue, mitigates thirst, restlessness, and heat of surface; and that thus the latter, and more formidable impression on the nervous system is prevented, recovery more certainly and speedily promoted, and the danger of relapsing into fever much diminished."

Impressed with use of purgatives in the typhus fever, Dr. Armstrong remarks, that, "purgatives seem beneficial by unloading the intestines of fœces and ex-

crementitious matters, which, when retained, excite and keep up much general irritation. But," he says, "is it not exceedingly probable, that they have another *and far more salutary effect, in restoring healthy secretion, and in removing irregular distributions of blood from the head, liver, and other parts?* The full operation of aperients sometimes reduces the morbid heat of the skin and the morbid force of the pulse, almost as effectually as the affusion of cold water or venesection; consequences which surely indicate that their action extends further than the mere removal of fœcal matter from the intestinal canal."

In intermittents, and remittents, cathartics appear to be indispensable remedies. It is however essentially necessary to the complete removal of these diseases, to push their exhibition considerably further, where they exist in plethorick habits, in connexion with fever of high arterial excitement, than when they exist under opposite circumstances.

In several of the diseases arranged by Doctor Cullen within the class *neuroses*, the milder cathartics, or rather laxatives, are often productive of highly beneficial results. In *apoplexies* they may be considered essential medicines; as likewise in *palsies*. In the former of these diseases they evidently produce their good effects by obviating in a great measure a determination of the circulation to the head—and by removing from the bowels, such substances or secretions which not unfrequently act as sources of great

intestinal irritation. Chorea, a disease which is truly an unpleasant one, it appears, has been successfully treated in a number of instances by a judicious selection of cathartics—Doctor Parr for "more than twenty years since," from the circumstance of "catching the hint from Sydenham, gave purgatives." He "found that these usually obviate disease yielding not only soon, but with little danger of relapse; and in this interval" he says "he had occasion to see more than sixty cases." He furthermore remarks, that "the choice of the purgative appears of little importance; but it must be active, for no other will produce the necessary discharge; and," that, "the saline purgatives are apparently less adapted to the complaint."* This is owing to their being less powerful; and consequently incompetent to the production of analagous effects.

Doctor Hamilton places but little confidence in the tonic and stimulant plan of treatment in this disease. Indeed, from his own experience, he found these modes of treatment inadequate to its removal; for he says, he "began to desert a practice in which" he "had lost confidence; and to consider chorea in a different light from that in which it had commonly been viewed."† In the first stage of the disease, he advises the use of gentle purgatives, "repeated as occasion may require," which he says, "will readily effect

* Vide his London Medical Dictionary, vol, 1, page 432.

† See his work on purgatives, page, 87, 89.

a cure, or rather prevent the full formation of the disease."

"In the confirmed stage," he states, that "powerful purgatives must be given in successive doses." He considers that by this treatment chorea may be speedily cured.

In *tetanus, hypocondriasis,* and in *hysteria,* the purgative plan of treatment has been recommended. Upon the subject of their utility in these cases and diseases, when given alone, I know nothing. I have employed purgatives in these affections in conjunction with other remedies, and with good results; but at the same time, it would be difficult for me to say, whether the beneficial results that have been displayed, should be ascribed to the combined use of these means, or to the impressions of a favourable nature having been induced by the purgatives which were given.

Cathartics have likewise been given in dropsical diseases; and in the *ascites* and *anasarca,* I have found them particularly useful; but more conspicuously effectual when prescribed in connexion with diuretics.

Various are the diseases, in which the articles belonging to the class of cathartics have been given, and from their confirmed utility, which is every day presented to the notice of the members of the medical profession; it may very naturally and correctly be inferred, that they are equalled by few, and surpassed

by no other set of medicines which are included in the Materia Medica.

Cathartics.

Iris Virginica	Virginian Iris
Iris Versicolor	Variegated Iris
Iris Verna	
Triosteum Perfoliatum	Bastard Ipecacuanha
Nicotiana Tabacum	Tobacco
Nicotiana Rustica	Common green Tobacco
Convolvulous Panduratus	Wild Potatoe-vine
Asclepias Tuberosa	Pleurisy-root
Rumex Acutex	Narrow Dock
Cassia Marilandica	American Senna
Podophyllum Peltatum	May-apple
Anona Triloba	Papaw
Eupatorium Perfoliatum	Bone-set
Juglaus Cinerea	Butternut

Iris Virginica, Virginian Iris, Triandria, Monogynia, Radix.

With propriety this plant may be considered as being among the most highly ornamental vegetable productions of the United States. It inhabits meadows and low grounds. Its large blue flowers, which are variegated with purple and white, unfold and display themselves in the month of July.

The root of this plant is actively cathartic; a decoction of which operates generally too powerfully to

admit of its administration in ordinary cases. In certain cases and diseases, which resist the action of the milder purgatives, it may be given with advantage; and that very often with the effect of procuring copious evacuations from the bowels.

When the expressed juice is intended to be exhibited, from thirty to eighty drops will in the majority of instances be found competent to produce the intended effect.

Iris Versicolor, Variegated Iris, Triand. Monog. Radix.

This article inhabits similar situations, with the species just noticed. It possesses virtues strikingly analagous to it; and it may be resorted to in practice under the circumstances, in which it has been employed with success.

Iris Verna—Triand. Monog. Radix.

The root of this production is also an active cathartic.

Triosteum Perfoliatum, Bastard Ipecacuanha, Pentand. Monog. Radix.

This plant is sometimes called Fever-wort. The bark of the root is a good cathartic, in doses of from twenty to thirty grains: when it is given in larger doses than this, it sometimes proves emetic. This plant is deserving of the particular regard of medical men in this country. As an article belonging to this class

of medicines, it may be found useful in a number of diseases.

Nicotiana Tabacum, Tobacco, Pentand. Monog. Folia.

The smoke of tobacco when thrown into the intestines, will often be found competent of producing evacuations, when the most prompt and active cathartics fail. The infusion may likewise be made use of in order to procure evacuation by stool. A drachm of tobacco, to a pint of warm water is a sufficient quantity. Too much caution cannot, however, be exercised in applying either the smoke or the infusion. Their application in this way, should only be had recourse to, when other cathartic medicines are ineffectual.

Nicotiana Rustica, common green Tobacco, Pentand. Monog. Folia.

This article may be used in the same way, and for similar purposes.

Convolvulous Panduratus, Wild Potatoe-vine, Pentand. Monog. Radix.

As a mild cathartic, the root of this plant may be given in the dose of forty grains. It may be found useful when the milder articles of this class are recommended.

Asclepias Tuberosa, Pleurisy-root, Pentand. Digyn. Radix.

This species of asclepias is known by the names of Swallow-wort, Butterfly-weed, &c.

The powdered root is a mild purgative in the dose of thirty or forty grains: but as such I believe it is seldom made use of in practice.

Rumex Acutex, Narrow Dock, Hexand. Trigy. Radix.

The root of this plant operates moderately on the bowels. It is, however, seldom used, unless in domestic practice; and then it is generally exhibited in the form of infusion. The seeds are represented to have been found useful in the dysentery; and the contused root when made into an ointment is stated to be a good application in the itch.

Cassia Marilandica, American Senna, Decand. Monog. Folia.

Few of our native cathartics appear to deserve more attention than this plant. It is quite common in the southern and western states. It seems to delight in a sandy soil; and it may be cultivated without much difficulty from the seed. Professor W. P. C. Barton says, as a cathartic, it is "little, if at all inferior to the senna of the shops, and is doubtless one of the most important of our indigenous medicines." He also remarks, "I have substituted it for the Alexandria senna, and have reason to confirm the high character

which it has long maintained." Doctor Eberle observes, "I have very frequently employed it instead of the officinal senna, and have always found it a certain and safe purgative." And furthermore, that, "the predominant constituents of the leaves of this plant are resin, and a volatile substance." It is generally exhibited in the form of infusion, and with a view of obviating the griping which it sometimes produces; a portion of fennel, anise, or any other carminative may be added.

I have frequently made use of it, and have in the generality of instances been pleased with its evacuating effects; perhaps upon the whole, as much so as the Alexandria senna. The dried leaves and follicles may be used; these should be collected when the pods have arrived at maturity. The dose is rather larger than the senna of the shops.

Podophyllum Peltatum, May-apple, Polyand. Monog. Radix.

This plant is known by a variety of appellations, such as Wild Lemons, Mandrake, Ipecacuanha, &c. It is quite common in almost every part of the United States. The fruit is esculent, and by many thought to be delicious. The leaves are poisonous. I have been in the habit of employing the root of the Podophyllum Peltatum for some time in practice, and I do not hesitate a moment in giving it the preference to Jallap. Twenty grains, in the generality of cases,

will be found sufficient to operate as a cathartic; but the dose may be increased to thirty grains, without its being attended with any drastic effects.

It is a well known fact, to all who have witnessed the variety of forms which bilious fevers occasionally assume, and to whose charge the treatment of these cases of disease have been committed, that the more drastic articles belonging to the class of cathartic medicines, such as the sub. myr. hyd. combined with the pulv. rad. jalap, &c. appear to be more slow and uncertain in their effects, than the milder saline purgatives. The sub. mur. hyd. cum jalap, I have frequently (during the prevalence of the epidemic intermittent fever of the fall of the year 1821,) given in very large doses, and repeated, without any of its evacuating powers being in the least degree obtained, and have consequently afterwards had to give a solution of the sulph. mag. before my patient's bowels would become freely moved. The rad. podop. peltat. cum sub. mur. hyd. is seldom, in these cases, subject to this inconvenience. It will be found, when given in the dose of fifteen grains of the former, and ten of the latter, in the generality of cases, productive of the happiest results. It is by no means so subject to produce griping as jalap and calomel when combined, though perhaps rather more apt to operate sursum et deorsum. From its use for a very considerable length of time, I have not been able to discover that this root possesses any anthelmintic properties, though I have, in a variety of

cases, given it a fair trial, in order to satisfy my mind upon the opinion of its supposed vermifuge qualities. I have sometimes given it alone, but have not found it as useful as when combined with the mur. hyd. nit. 2640 grains of the recent root lost in drying 1620 grains, and from 5126 grains of the recent root, I obtained 300 grains of alcoholic extract; and from the same quantity of recent root, 377 watery extract. These extracts possess considerable activity, and may be given in doses of from ten to twelve grains.

All the writers on the subject of the cathartic operation of this plant, speak more or less, in attestation of its purgative effects. Doctor Burgon remarks, "its operation in all cases in which I have administered it, is slower than that of jalap, but it leaves the bowels longer in a lax and soluble condition." He likewise says, "I once took twenty grains at four o'clock, P. M. which gave me no disturbance till the next morning, when its operation commenced, and produced continual motions all that day, and part of the next night, together with severe tormina; this was the first dose of podophyllum I had ever administered; and its effects being so decided, I have since prescribed it in a multitude of cases, and for the most part, with similar results." Doctor Bigelow concludes, that "the medical properties of the podophyllum peltatum are those of a sure and active cathartic;" and Doctor Eberle says, "I have myself given it very frequently instead of jalap, and have always found it active and safe in its

operation. It is, however," he furthermore observes, "more drastic and apt to gripe than jalap; nor does it appear to be so prompt in its effects as a cathartic." Professor Chapman states, that "as a purgative, it resembles jalap, and I think, in a similar dose it is scarcely less active or effectual."

The root of this plant is undoubtedly a purgative of no inconsiderable degree of activity, and equally entitled to the notice of the American medical practitioner, with some in use among us, which are of exotic origin. Professor B. S. Barton, who it appears had great confidence in the cathartic powers of the root of the peltatum, has observed, "that it has been thought by some practitioners to whom he had made known the use of the medicine, to be especially adapted as a purge in cases of intermittents, remittents and dropsy."

Some of the medical practitioners of this country occasionally exhibit it in conjunction with the *Cremor Tartari*, and it is said with good effect. Doctor Stephen Burgon, of Bucks county, Pennsylvania, observes, that "the powdered root" of the podophyllum peltatum "is extensively employed as a cathartic in bilious complaints; and," that he is "persuaded with as much success as the jalap." He furthermore remarks, "I have often prescribed it with calomel, in the proportion of 20 grains of the former, to 8 or 10 of the latter; and I have uniformly been

pleased with its effects on my patients." He also says, "in this dose it is extremely prompt and efficacious."*

Anona Triloba, Papaw, Polyand. Polygynia, Fructus.

The tree that produces the fruit commonly called papaw, or custard-apple, is not uncommon in the various sections of the United States. This fruit is esculent, and by many persons considered delicious. It, when eaten in ordinary quantities, operates moderately upon the bowels; and it may therefore, be considered a useful eccoproctic remedy in many cases, particularly, in the affections in which the pruen may be used with advantage. The fruit may be eaten in its recent state; or after having been dried.

Eupatorium Perfoliatum, Bone-set, Syng. Polyg. Æqualis, Herba.

We are informed by Doctor Thacher, that "an infusion" of this plant, "has long been esteemed as an efficacious remedy in bilious colic accompanied by obstinate constipation, and" that "it is directed to the quantity of a teacupful every half hour until it produce a cathartic effect." The cold infusion is undoubtedly preferable, as, when given warm, with this view, it is apt to excite emesis.

* American Medical Recorder, vol. 3, for 1820, page 331.

Juglans Cinerea, Butternut, Monoicia, Polyand. Liber Radicis.

The extract, when properly prepared from the bark of the root of this tree, is a purgative of no inconsiderable value, in the doses of from ten to twenty grains. Doctor Ansel W. Ives, says, "its action seems to be more like that of rhubarb, than any other article quickening the peristaltic motion without inducing subsequent debility, and torpor of the bowels." We are informed by Doctor John R. Cox, that "during the American war, the extract made from the inner bark of this tree, attracted the attention of Doctor Rush, and other medical men in our military hospital; and being frequently administered to patients under the operation of inoculated small pox; it was proved to be an excellent substitute for jalap and other cathartics." He likewise says, "conjoined with calomel it is rendered more active and efficacious, especially in bilious habits."

The extract of the bark of the cinerea should be prepared with great care, otherwise, it is apt to lose in a great measure its activity. When made by the country people, this is not unfrequently the case. The apothecaries are the persons by whom the extract should be made, so that its activity may be preserved.

In several instances, I have employed this remedy, both alone, and in conjunction with calomel; and that with very happy effects. I have seldom found its use succeeded by, or accompanied with tormina.

Doctor Thacher states, that "a decoction of the inner bark is advantageously employed as a cathartic in the disease of horses called the *yellow water.*"

CHAPTER X.

Emmenagogues.

But few of our native productions appear to be entitled to a place in the class of emmenagogues. It, however, appears rather doubtful, whether any of the articles strictly considered as belonging to this class of remediate agents, operate specifically, or directly upon the uterine system, in producing the effects peculiar to their administration in suppressed catamenia; for, by making the necessary inquiry, in order to become acquainted with the history, and treatment of the various cases, that present themselves to the consideration of the erudite, and extensive practising physician, this disease will, in the generality of instances, be found to owe its existence, and occurrence to a super-tonic, or sub-tonic state of the complicated physical machinery of man; an equalized action throughout every part of which, seems to be essentially necessary to ensure health, happiness, and life.

It would also seem reasonable to conclude, that no articles operate directly upon the uterus, from the circumstance of the adoption of the depleting plan, having from experience been found sufficiently adequate to its removal in the former state of the system; and from the happy effects which result from the exhibition of tonic remedies, when the affection owes its existence to a state of general relaxation or debility.

Furthermore, if the catamenia be a secretion, which it is supposed but few will seem disposed to doubt; we are very naturally led to conclude, that by paying the necessary degree of attention in the direction of our remedies, to the state of the general system, that this secretion may be brought on. Then the supposed sentiment of the utility of this class of medicines depending on the immediate, or direct action which they exert on the uterus, cannot be well founded; particularly as some of them display in their operation the power of increasing the *vis atergo*, while others give tone to the animal body: and another set of agents, by their peculiar operation, diminishing undue plethoric action, and restoring the system to the performance of its various destined functions; and thereby removing suppressed catamenia.

Emmenagogues.

Cunila Pulegoides	Pennyroyal
Polygala Senega	Seneka

Cunila Pulegoides, Pennyroyal, Diand. Monog. Planta.

I have given this herb a place among this class of medicines, on account of its being esteemed as an emmenagogue by the country people. How far it is worthy of notice in this respect, must be left for future experiments and observation to determine. I have found an infusion of the herb, a valuable medicine in certain cases of diarrhœa. A little sugar may sometimes be added to make it more palatable.

Polygala Senega, Seneka, Diadelph. Octand. Radix.

The medical community is indebted to Doctor Hartshorne of Philadelphia, for a knowledge of the emmenagogue powers of this interesting and useful indigenous production. Professor Chapman says, that he has employed it, "both in" his "public and private practice, to a considerable extent, and with sufficient success to warrant" him "in recommending it as one of the most active, certain and valuable of the emmenagogues." An infusion prepared from one ounce of the contused root, in a pint of boiling water, should be commenced with a few days prior to the regular period of menstruation.

CHAPTER XI.

Diuretics.

Our native diuretics appear to be entitled to the regard and attention of the American medical practitioner. Some of these act with considerable certainty and promptness of effect; and will consequently be found well suited to many cases, in which the Digitalis Purpurea; the Scillæ Maritima; the Colchisum Autumnale; with several other diuretics of exotic origin, which have been successfully employed.

Their promoting an increase of the urinary discharge, renders them remedies very often of considerable importance in the treatment of dropsical affections. They are sometimes also resorted to in calculous cases; but I am disposed to conclude, that, in these affections, they are productive of less general good, than they are in the diseases just cited.—In the stranguary, which is often the result of the application of blisters, and which is always more or less unpleasant to the patient, I have prescribed some of the articles belonging to this class, with the most decided and unequivocal success.

The action of this set of remedies, are generally displayed in a direct ratio to the deficiency which is evident at the time of their exhibition in the perspira-

tory process; hence the necessity of keeping the body cool, in order thereby to facilitate their operation the more promptly and effectually.

The following articles belonging to the class of our indigenous diuretics, will be noticed in the order in which they are arranged.

Diuretics.

Iris Versicolor	Variegated Iris.
Ilex Vomitoria	South-Sea-Tea
Nicotiana Tabacum	Tobacco
Nicotiana Rustica	Common green Tobacco
Triosteum Perfoliatum	Bastard Ipecacuanha
Convolvulous Panduratus	Wild Potatoe-vine
Eryngium Zuccifolium	Eryngo
Daucus Carota	Wild Carrot
Chimaphila Umbellata	Pippsissewa
Polygala Senega	Seneka
Lobelia Syphilitica	Blue Cardinal Flower
Eupatorium Purpureum	Trumpetweed
Juniperus Virginiana	Common Red Cedar
Humulus Lupulus	Common Hop

Iris Versicolor, Variegated Iris, Triand. Monog. Radix.

This production has been noticed under the head of cathartics. It is likewise diuretic; and may be given in the form of infusion and decoction.*

* Doctor Thacher in speaking of this root, observes, that it possesses "the properties of a diuretic, and administered in moderate

Ilex Vomitoria, South-Sea Tea, Tetrand. Tetragynia, Planta.

The article under consideration, certainly possesses to a certain extent, the power of promoting the action of the kidneys. For this reason, it has been introduced into the present class, although, I believe it is seldom employed in practice.

Nicotiana Tabacum, Tobacco, Pentand. Monog. Folia.

This article, possesses in an eminent degree, diuretic properties. With a view to its producing this effect, it has been exhibited in dropsy and dysuria; and the various writers on the subject, speak favourably in attestation of its efficacy. The principal disadvantage attending its administration, is that, of its not unfrequently exciting considerable vertigo and much nausea. The dose of the tincture is from fifteen to twenty drops.

Nicotinia Rustica, Common green Tobacco, Pentand. Monog. Folia.

This plant, as has heretofore been observed, is rather milder than the Nicotinia Tabacum, and is consequently better adapted as a medicine than this article.

doses, in the form of decoction or tincture, it has proved efficacious in anasarca and other dropsical affections."

Triosteum Perfoliatum, Bastard Ipecacuanha, Pentand. Monog. Radix.

The bark of the root of this plant, I have had occasion to notice under the head ot cathartics. It is also diuretic : but perhaps it is hardly worthy of notice on this account.

Convolvulous Panduratus, Wild Potatoe-vine, Pentand. Monog. Radix.

This root is considerably diuretic. It has been greatly recommended in cases of gravel. It may be used in substance or decoction.

Eryngium Zuccifolium, Eryngo, Pentand. Monog. Radix.

This species of Eryngium is nearly allied in its medicinal character, to the Eryngium Maritimum ; being but slightly diuretic in its operation.

Daucus Carota, Wild Carrot, Pentand. Digynia. Radix. Semina.

The wild carrot grows abundantly in the various sections of the United States. A decoction of the root and seed, may be considered a valuable diuretic. It is one of the best means of relieving the stranguary arising from blisters. The decoction may be drank to the extent of a pint a day.

Chimaphila Umbellata, Pippsissewa, Decand. Monog. Herba.

The Chimaphila Umbellata has, within a very few years, attracted much of the attention of the physicians of this country, on account of its diuretic property, which it certainly possesses in an eminent degree. It has been advantageously employed, as a remedy in anascarcous and other dropsies; and the attestations in favour of its efficacy are many. Doctor Somerville has paid much attention to its effects upon the system; and from the result of his observations, we are justly warranted in asserting it to be certain, prompt, and effectual as a remedy of this kind; and equally competent with many of the articles belonging to this class, to the removal of some of the diseases, in which diuretic remedies have been successfully exhibited. He considers it justly entitled to a respectable rank in the catalogue of remedies for dropsies.* Many physicians both in Europe and America, have employed it subsequent to this period; the most of which, speak in confirmation of its valuable operation in this way. From my own experience I know nothing of its operation as a diuretic.

It is mostly given in the form of a strong decoction, to the extent of a pint a day. The dose of the extract is from ten grains to a scruple, given twice or thrice in twenty-four hours.

* Vide Medico-Chirurgical Transactions of London, vol. 5.

Lobelia Syphilitica, Blue Cardinal Flower, Syng. Monog. Radix.

The root of this species of Lobelia is said to be considerably diuretic; and Mr. Pearson found that it generally disagreed with the stomach, and it seldom failed of affecting the bowels as a strong cathartic. It certainly possesses no power of curing syphilis; even the Indians, when they have the disease, are glad of an opportunity of applying to the whites.

Eupatorium Purpureum, Trumpet-weed, Syng. Polyg. Æqualis, Radix.

Doctor Thacher says, that "this plant is an excellent diuretic, affording great relief in aysuria, and other affections of the urinary passages, increasing the secretion of urine in dropsy, &c." An infusion of the root may be used freely of, until its diuretic effects are induced; which should be kept up a sufficient length of time to test its efficacy.

Juniperus Virginiana, Common Red Cedar Tree, Diœcia, Monadel. Baccæ.

A tincture prepared from the leaves as well as berries of this tree, is a valuable diuretic; and no doubt will be found useful in a number of affections, in which medicines of this class are recommended.

Humulus Lupulus, Common Hop, Dicœcia, Pentand.
Stroboli Siccata.

An infusion of the hop is a pretty good diuretic. It will often afford relief in stranguary, arising from the application of blisters—The infusion may be taken freely of.

CHAPTER XII.

Diaphoretics.

The class of our indigenous vegetable diaphoretics, is somewhat interesting; from which there is but little doubt, several remedies may be selected, that will be found well adapted to a number of affections, in which the customary medicines of this kind which are used among physicians, are not unfrequently employed with the happiest results. It is however to be regretted, that the generality of our native productions, belonging to the vegetable kingdom, have not been sufficiently extensively resorted to in practice, to confirm the utility of such as are worthy of attention; and to cause such as are unworthy of notice, to be rejected, as either being inert, or possessing too little activity to entitle them to a place in the Materia Medica. It is nevertheless to

be hoped, that the time is not far distant, when every American medical practitioner, will conceive it not only as an accomplishment, to be acquainted with the medical botany of his country, but in some degree essentially necessary to ensure him success in the discharge of his professional duties, whenever he may be placed in situations in which the articles common in practice, cannot be procured at a time, in which they are most desirable to be administered.

Diaphoretics.

Eryngium Aquaticum	Water Eryngo
Asclepias Toberosa	Pleurisy-root
Asarum Canadense	Wild Ginger
Sophoria Tinctoria	Wild Indigo
Euphorbia Corollata	Large flowering Spurge
Sanguinaria Canadensis	Puccoon
Laurus Sassafras	Sassafras
Eupatorium Perfoliatum	Bone-set

Eryngium Aquaticum, Water Eryngo, Pentand. Monog. Planta.

The Eryngium Aquaticum is a stimulating diaphoretic. It is nearly allied to the contrayerva of the shops. The southern indians are in the habit of using it in the form of decoction.

Asclepias Tuberosa, Pleurisy-root, Pentand. Digy.
Radix.

We have perhaps, no indigenous diaphoretic, belonging to the vegetable kingdom, that is more prompt and certain in its operation, than this species of asclepias. This beautiful and highly ornamental plant, seems first to have attracted the attention of a Mr. Thomson Mason, of Virginia, whose experience of its virtues in Pleuritis, has been such, as to have given rise to a disposition, among the members of the profession, to investigate its powers more fully. Mr. Mason is in the habit of prescribing it in the following manner: after the use of an antimonial emetic, and the loss of some blood, he gives his patients about half a drachm of the finely powdered root in a cup of warm water, and repeats the dose every two hours, until the patient is perfectly recovered, which generally happens in about three days. He asserts that by using it with the adoption of the preceding plan, he has cured hundreds without having failed in one instance of success.

The worthy Doctor Richard Hopkins, of Maryland, informed me, that he had frequently used the root of the Tuberosa, with a view of producing a determination to the surface; and that, with the most decided and unequivocal benefit. He esteems it a valuable diaphoretic. Professor Coxe, considers it "a valuable addition to the Materia Medica, having been found to

possess medicinal virtues of no inconsiderable importance "* A number of physicians speak in support of the beneficial effects that have resulted from its administration, in similar cases of the disease under consideration, in which they have directed its use. It possesses the power of producing a copious and free discharge from the skin, without increasing the heat of the surface ; which circumstance gives to it a decided preference as a remedy in affections, in which venesection and the other antiphlogistic means are indicated.

Asarum Canadense, Wild Ginger, Dodecand. Monog. Radix.

This plant, is known also by the names of Colt's foot, Indian Ginger, &c. The root is considerably more aromatic, than that of the Aristolochia Serpentaria ; and rather less so than ginger. When given in very large doses, its action is that of a stimulating diaphoretic ; and will be found a useful remedy in diseases, in which a deficiency of excitement exists, with a dry surface. It may, however, be more usefully employed in such cases, when exhibited in conjunction with the snake-root.

Sophora Tinctoria, Wild Indigo, Decand. Monog. Radix. Planta.

An infusion of this plant sometimes operates as a sodorific.

* American Dispensatory, page 117.

Euphorbia Corollata, Large flowering Spurge, Dodec. Trygy. Radix.

This plant I had occasion to notice more particularly under the head of emetics. As a diaphoretic, it may be employed in a number of diseases in which these medicines are recommended. The dose of the powdered root is about four grains, to be repeated every three hours, until its effects are produced.

Sanguinaria Canadensis, Puccoon, Polyand. Monog. Radix.

The plant under consideration, is well worthy of the attention of the American medical practitioner, on account of its diaphoretic powers. Much indeed has been said of its operation in this way; and that from the most respectable and credible sources; particularly when it has been used in cases of acute rheumatism. Doctor Nathan Smith, speaks of it in the following manner, and observes, "I have found a remedy which has done more in cases of acute rheumatism, than all other internal remedies which I have seen used in that disease. This is the Sanguinaria Canadensis, or blood-root. I have given it in infusion and tincture with laudanum. The dose of blood-root, should be as large as can be borne on the stomach without proving an emetic, combined with a dose of laudanum, adapted to the circumstances of the patient. This dose should be repeated twice or thrice a day. When the

tincture of blood-root is used, the dose may be a teaspoonful to begin with; which must be increased till the patient feels the effects sensibly. When the infusion is used, half a table spoonful will be sufficient for the first dose."* Doctor Ansel W. Ives, whose name I have had occasion to introduce into this work several times; and who appears to have paid no small share of attention to the medicinal operation of some of our indigenous vegetable productions, makes the following remark, in relation to the effects of this substance, upon the animal economy. "From a careful examination of what written testimony appears to have founded on personal observation, and from pretty extensive experience of the effects of this article, in numerous forms and in various stages of disease, I am of opinion, that when taken in doses as large as the stomach will quietly retain, and under circumstances favourable to its operation; its modus operandi is most conspicuous in allaying morbid irritability of the heart and arteries, thereby diminishing the frequency of the pulse, and in increasing bronchial and cutaneous secretion."† In the sub-acute stage of a number of affections, the Doctor appears to have directed the internal administration of this remedy, with the most beneficial results. Its use in the generality of instances, should be confined more particularly to

* See his edition of "a Treatise on Febrile diseases, &c." By A. P. W. Philip, M. D. F. R. S. &c. vol 2, page 251.

†Vide his edition of Paris's Pharmacologia, vol. 2, page 289.

this, than any other state of the system ; for in all cases, unless depletion, both general and local, has been resorted to, when necessary previous to its exhibition, very little good may be expected to result from its operation. I have, under these circumstances, found it admirably adapted to the treatment of cases of acute rheumatism ; and indeed, I can safely say, that I conceive it one of the most efficacious and valuable medicines included in the Materia Medica for the speedy removal of this truly distressing, and not unfrequently troublesome malady. For a more particular view of its affects that I have noticed in this disease, I beg leave to refer the reader to the "Philadelphia Journal of the Medical and Physical Sciences," No. 12. page, 297.

Laurus Sassafras, Sassafras, Enneand. Monog. Lignum.

An infusion or decoction of the sassafras, when drank freely of, is slightly stimulant and diaphoretic. It is sometimes added to decoctions of Mezereon, Guaiac, and some other diaphoretic remedies. It is, I believe, not very often used in practice with a view to its producing this effect.

Eupatorium Perfoliatum, Bone-set, Syngen. Polyg. Æqualis, Herba et Flo.

The Eupatorium Perfoliatum has attracted the attention of some of our medical practitioners as a di-

aphoretic remedy, in several of the diseases in which the articles of this class are supposed to have been competent to produce good effects. Of its salutary effects, I can say nothing, from my own experience, of its operation in this way.

Doctor Eberle says, "as a diaphoretic it may generally be employed with much benefit in catarrhal fevers." He further remarks, "in slight cases of this kind, a weak infusion of it, drank warm on going to bed, will often remove the disease very speedily."* Doctor Chapman in his remarks on this production, observes, "that many years ago, we had throughout the United States, a species of influenza, which, in consequence of the sort of pain attending it, came to be denominated *break-bone fever*. The Eupatorium, acting as a diaphoretic, so promptly relieved this peculiar symptom, that it acquired the popular title of *bone-set*"†

Some writers have recommended its use in rheumatism.

* Materia Medica and Therapeutics, vol. 2, page 235.

† Elements of Therapeutics and Materia Medica, vol. 1, page 430.

CHAPTER XIII.

Expectorants.

We cannot but be impressed with the sentiment of the utility, that is derived from whatever means that may be successfully resorted to, with a view to the alleviation, and irradication of the affections which not unfrequently attack the lungs and their appendages.

Impressed with the intimacy that exists in connexion with the various functions, which regulate, and control the complicated structure of the human body, and these parts; we are irresistably compelled to acknowledge them, as being destined to perform very important offices.

There is no inconsiderable difficulty presents itself, in attempting to give a correct idea of the modus operandi of the medicinal agents, which are comprised in the class of expectorants; and, inasmuch, as theories which are not attested by incontrovertible experiments, are infinitely better calculated to please, than to be productive of practical benefit to the physician; and as the number of pages which has been allotted for the present volume, having been already encreased in number; a view cannot consequently be taken on the subject of their mode of operation—Expectorants may

be considered such remedies, as augment the bronchial secretions, in conjunction with their facilitating the excretions of those secretions by expectoration. "The changes induced in the system, from the primary effects of expectorants, are, an alteration in the state of the mucus excreted to a more thin and fluid consistence: an increase of the sensibility of the lungs; free circulation through the blood-vessels of the secreting glands; and the evacuation of those cavities in the lungs in which mucus is deposited."

Expectorants may be divided into the nauseating, as squills, gum-ammoniac, and garlic; the antispasmodic, as blisters, feet and vapour-baths; and irritative, as acid vapours, and the common smoking of tobacco. "The indications these medicines are capable of fulfilling may be traced as follows: 1. From their affecting the secretion of mucus; whence they may be used, to promote the secretion of mucus by the lungs, when morbidly diminished there; to render the mucus of the lungs thinner, when morbidly thick and viscid. 2. From their affecting the excretion of mucus; whence they may be employed, to evacuate morbid accumulations of mucus in the lungs; to supply irritation to the lungs when morbidly deficient. 3. From their affecting the state of the lungs themselves; whence they may be employed as local stimulants."

Expectorants.

Nicotiana Rustica	Common green Tobacco
Nicotiana Tabaccum	Tobacco
Asclepias Syriaca	Common Silk-weed
Asclepias Tuberosa	Pleurisy-root
Statice Caroliniana	Marsh Rosemary
Euphorbia Corollata	Large flowering Spurge
Sanguinaria Canadensis	Puccoon
Polygala Senega	Seneka
Lobelia Inflata	Emetic-Weed
Arum Triphyllum	Indian Turnip

Nicotiana Rustica, Common green Tobacco, Pentand. Monogy. Folia.

The Nicotiana Rustica may be considered a safer expectorant than the Nicotiana Tabaccum. It should, consequently, be preferred, whenever the employment of either of these substances may be deemed proper. The mode of administering it, is the same as the Tabaccum.

Nicotiana Tabaccum, Tobacco, Pentand. Monogy. Folia.

This article has been celebrated in humoral asthma, and chronic catarrh, in the form of the watery extract, exhibited in the quantity of from one, to two, and three grains. It is not improbable, but what it operates in these affections on the same principle as the Digitalis Purpurea, in as much as its action on the animal econo-

my is very analogous to this article. It is, I believe, however, seldom used in practice with a view to the alleviation of these diseases.

Asclepias Syriaca, Common Silk-weed, Pent. Digy. Rad. Cort.

The root of the Asclepias Syriaca, in the hands of some of our physicians, has proved itself to be a valuable expectorant; but it has failed to produce this effect, though it has been frequently given by others.

Dr. Abijah Richardson, of Medway, Massachusetts, has been induced to try the effects of this species. He gave the cortical part of the root in powder, one drachm in a day, in divided doses, and also in strong infusion.—An asthmatic patient was much benefited by its use. In one case of typhus fever with catarrhal affection of the throat and bronchiæ, it rendered the expectoration more copious, and the matter thicker and more digested. In both cases it had an anodyne effect, the patients were relieved from pain, from dyspnœa and cough, and expectoration became easier, and sleep more refreshing. I can say nothing of the virtues of this plant from my own experience, in a medical point of view.*

*The young shoots of the Syriaca, which emanate from the earth's surface in the spring season of the year, when served up in the same manner as the *Asparagus Officinalis* of Linnaeus (or Asparagus, common sparage, or sparrow-grass,) is equally delicious with this article.

Asclepias Tuberosa, Pleurisy-root, Pent. Digy. Radix.

This species of Asclepias is a pretty good expectorant. The powdered root is the part that is made use of, or a syrup formed by adding to a decoction of the root, a sufficient quantity of sugar. It has been been useful in affections of the thorax.

Statice Caroliniana, Marsh Rosemary, Pentand. Pentagy. Radix.

This plant which I had occasion to mention under the head of emetics ; is a powerful expectorant, but I do not know whether it is used as such in practice.

Euphorbia Corollata, Large flowering Spurge, Dodec. Trigy. Radix.

As an expectorant, the powdered root may be given in the dose of three grains, occasionally.

Sanguinaria Canadensis, Puccoon, Polyand. Monog. Radix.

This plant is deserving of a place among this class of medicines ; the root is a pretty good expectorant, in the dose of a grain or two occasionally.

Polygala Senega, Seneka, Diadelphia Octandria. Radix.

Seneka is frequently employed as an expectorant in pneumonia, after the highly inflammatory stage of the disease is subdued. The dose of the powdered root is from ten to twenty grains, but it is generally given in the form of decoction. It has of late days become a very fashionable remedy in the treatment of Cynanche Trachealis; in this common, and (too frequently) unmanageable disease, it has proved itself to be a valuable medicine. The Polygala Senega possesses not only emetic and expectorant virtues, but also, diuretic, diaphoretic, and cathartic; some have likewise employed the root in hydroptic cases, and not without success. There are examples of its occasioning a plentiful evacuation by stool, urine and perspiration, and by this means removing the disease, after the common diuretics and hydagogues had failed.

The Senegora Indians are said to prevent the fatal effects of the bite of the rattlesnake, by giving it internally, and by applying it externally to the wound.

Lobelia Inflata, Emetic-weed, Syng. Monog. Folia.

As an expectorant the emetic-weed has been found useful in consumptive and other coughs, depending upon mucous accumulated in the bronchial vessels by exciting nausea and expectoration. It no doubt will be found serviceable in a number of diseases, in which such medicines are recommended.

Arum Tryphyllum, Indian Turnip, Monoiciœ Poly.
Radix.

This plant is known also by the names of wake robin, dragon root, &c. The acrimony of the root is well known to every person that is acquainted with it.* By drying, nearly all of this is lost.

It has been recommended in the asthma, in Cynanche Trachealis, and in Purtusis.

The root boiled in milk, has been found useful in Phthisis Pulmonalis, but it should be given internally with great caution in its recent state.† The powdered root may be given, after its volatile principle has become dissipated, in doses of from twelve to sixty grains, two or three times a day.

* Professor Bigelow says, "the acrid property which resides in this and other species of arum, appears to depend upon a distinct vegetable principle, at present but little understood. "It is" he furthermore remarks, "extremely volatile, and disappears almost entirely by heat, drying, or simple exposure to air," and that it possesses "no affinity for water, alcohol, or oil, being volatile, and in a state of gas inflammable."

† The learned, and indefatigable Professor Eberle, in his valuable Materia Medica and Therapeutics, remarks, "that in chronic asthmatic affections of old people," the Arum Tryphillum, "is a remedy of very considerable value;" and, that he has also "seen it do good in chronic catarrhs, and in Phthisis Pulmonalis."

CHAPTER XIV.

Sialagogues.

Sialagogues are such medicines as excite an uncommon flow of saliva, by stimulating the salivary glands, or their excretories; and thereby produce the effect peculiar to their administration, or local application. They have been divided into topical and general sialagogues.

Sialagogues.

Aralia Spinosa	Prickly ash
Chimaphila Umbellata	Pippsissewa
Chimaphila Maculata	*Spotted leaved* Pippsissewa
Polygala Senega	Seneka

Aralia Spinosa, Prickly Ash, Pentand, Pentagynia, Cortex.

This is the Zanthoxylum Clava Herculis of Linneus; and the Zanthoxylum Fraxinifolium of Marshall. It is also known by the common name of tooth ache tree.

The bark of this tree is a powerful stimulant, and when applied to the mouth and internal fauces, it occasions a copious flow of saliva. The berries are used to put into a hollow tooth when aching; a decoction prepared from the bark, has been celebrated for

the cure of rheumatic affections. In some parts, a spirituous infusion of the berries is esteemed as a remedy, by the country people, in cases of a violent colic. We have another species of this genus: viz. the Zanthoxylum Tricarpum of Michaux; its virtues are not well ascertained.

Chimaphila Umbellata, Pippsissewa, Decand. Monog. Radix.

The root of this plant when chewed, excites a sense of heat, and an increased flow of saliva; and by the country people, it is used in this way; and it is said to afford relief from pain in tooth ache.

Chimaphila Maculata, Spotted leaved Pippsissewa, Decand. Monog. Radix.

The root of this species of Chimaphila operates also as a sialagogue.

Polygala Senega, Seneka, Diadelph. Octand. Radix.

I have given the seneka a place under the present head, in as much as its internal exhibition is sometimes followed by a profuse salivation. Doctor B. S. Barton, states a case of hydrothorax complicated with anasarca, which came under his notice, where the patient was profusely salivated by the use of a strong decoction of the seneka.

CHAPTER XV.

Errhines.

Errhines are medicines, which when applied to the Shneiderian membrane of the nose, excites sneezing and increases the secretion of mucous. The action of these medicines, differ in relation to the impression which they produce upon the parts with which they are brought into contact; some inflaming the membrane more or less, and induce a sense of heat; while others display no such effects.

Murray in noticing this subject, states, that "It is evident, that the effects of this class of remedies must be very limited, as applied to the treatment of disease. By the evacuation they occasion, it has been supposed that they diminish the quantity of fluid circulating in the neighbouring vessels; hence they have been inferred to be useful in rheumatic affections of the muscles of these parts, and in toothe ach. It has even been supposed, that their effects may extend to all the branches of the external carotid, and Dr. Cullen mentions, that he has, apparently from this opetaration, known headach, pain of the ear, and some cases of ophthalmia, cured or relieved by the use of errhines. He has likewise supposed, that they may have been of use in pre-

venting apoplexy or palsy: this at least should, he remarks, be so far attended to, that when any approach to these diseases is suspected, the drying of the mucous discharge should be attended to, and if possible obviated."

Errhines.

Nicotiana Tabaccum	Tobacco
Nicotiana Rustica	Common green Tobacco
Asarum Canadense	Wild Ginger
Sanguinaria Canadensis	Puccoon
Myrica Cerifera	Candleberry myrtle

Nicotiana Tabaccum, Tobacco, Pentand. Monog. Folia.

The powdered leaves of Tobacco act as an errhine, in persons who are unaccustomed to its use.

Nicotiana Rustica, Common green Tobacco, Pentand. Monog. Folia.

This plant is competent to the production of analogous effects, with the species just noticed.

Asarum Canadense, Wild Ginger, Dodec. Monog. Folia.

The powdered leaves of this plant are considerably errhine, and may be found useful in the cases in which these remedies are used.

Sanguinaria Canadensis, Puccoon, Poly. Monog. Radix.

The powdered root of the Sanguinaria Canadensis, snuffed up the nose, is errhine; and as such, it may be found useful in some cases where these medicines are recommended.

Myrica Cerifera, Candleberry Myrtle, Dioecia. Tetrand. Cortex.

The powdered bark of this singular production, is a powerful sternutatory. I do not know that it has ever been introduced into practice.

CHAPTER XVI.

Epispastics and Rubifacients.

Epispastics may be defined such medicines, as when applied to the surface of the human body, produce inflammation and vesication; and Rubifacients, such substances as produce only inflammation. The pain and inflammation which is the result of the application of both of these medical agents, differs in violence, in consequence of the one displaying a greater degree of ac-

tion than the other—Rubifacients are therefore attended with less of these unpleasant effects, than Epispastics.

The inflammation which is produced on the skin by the immediate application of blisters to any particular part, causes a thin serous fluid to be poured out from the exhalents, which raises the cuticle from the true skin, and, thereby causes the formation of a vesicle. This effect is the result of their strong stimulating action; and, to this stimulant operation, and the pain which they produce, may be attributed the happy consequences which are effected by their application in the treatment of the various affections which require them to be employed.—Different are the sentiments among medical men in relation to the precise manner in which blisters act upon parts remote from the seat of their application. They may, however, be considered as producing their beneficial effects, in local diseases, upon the principle of their acting as counter irritants.

They, therefore, by producing a more extensive degree of inflammation upon the parts to which they are applied, than that which exists in the parts which are labouring under local inflammation, divert the diseased action to the surface on which their impressions are made, hence the utility of using large blisters.

In this way we may venture to explain "the efficacy of blisters in all cases of inflammation and of spasmodic constriction; a new inflammation being excited

by the blister which occasions derivation of action. Hence, too, the advantage obtained is greater when the blister is applied as near as possible to the part affected. This principle regulates the application of blisters in pneumonia, hepatitis, phrenitis, angina, opthalmia, rheumatism, and every other case of active inflammation. In these affections, blisters are used with very evident advantage; the local inflammation which is excited more than counterbalancing, by this operation, the stimulant effects at the same time produced."

From the circumstance of blisters operating as general stimulants, they may be had recourse to with advantage in diseases partaking of a typhoid type; and indeed they appear often to rouse up the nervous energy when the administration of the various stimulant medicines appear to do but little good.

Epispastics and Rubifacients.

Lytta Vittata	Potatoe Fly
Rhus Toxicodendron	Poison Oak
Rhus Radicans	Poison-vine
Rhus Vernix	Poison Sumach
Dirca Palustris	Leather-wood
Laurus Sassafras	Sassafras
Chimaphila Umbellata	Pippsissewa
Euphorbia Corollata	Large flowering Spurge
Ranunculus Sceleratus	Celery-leaved Crow-foot
Anthemis Cotula	Wild Chamomile

Juglans Cinerea	Butternut
Juniperus Virginiana	Common Red Cedar Tree

Lytta Vittata, Potato Fly.

This insect which is certainly deserving of the particular regard of physicians, is the Cantharis Vittata of Oliver.

In some parts of our country its virtues are well known; and by those who have made use of it, it is thought to be equal if not superior, in some respects, to the Lytta Versicatoria. I have used it myself, and have found it equally as certain in producing its effects, as the European insect. It raises a blister in less time, which is a matter of the utmost importance in some cases.*

We have several other species of the genus Lytta in the United States: the Lytta Marginata, the Lytta Atrata, and the Lytta Cinerea; all of which differ only in the force with which they act, when applied to the surface of the body. The different species just mentioned, are said to possess all the active and useful properties of the European insect.

*There is not the least doubt but what this valuable insect might be procured in sufficient quantities, to answer the demands of every American practitioner. It ought to have a place in all the apothecary shops throughout the United States. If the apothecaries were to make it a business to keep the article, there is but little doubt but what they would find a very ready sale for it. The different species of this insect are not confined to one plant only, but are to be found upon several others.

Rhus Toxicodendron, Poison-oak, Pent. Trigy.
Folia.

This as well as some of the other species of the genus Rhus, is considerably more active in warm weather. I knew several persons who dare not approach near to it, without being afterwards affected with a troublesome itching, and inflammation of the skin. Perhaps its use as a rubifacient, is not worthy of much attention, inasmuch as the effects arising from its application, may be sometimes more unpleasant to bear than the disease. Some constitutions are not affected by it. I have frequently rubbed the leaves upon my arms without their affecting me in the least. The most suitable remedies for removing the unpleasant, and frequently, the alarming symptoms which at times occur, in consequence of persons having handled, or approached too near the poison oak, are those of a cooling nature, such as: a solution of sugar of lead, or corrosive sublimate in water; bloodletting and the free use of cathartics may answer a good purpose. Persons who are apt to become affected by this article should carefully avoid it. The Rhus Rhadicans, or poison-vine, and the Rhus Vernix, or poison sumach, produce the same effect.

Dirca Palustris, Leather-wood, Octand. Monog. Cortex.

The contused bark of this production, moistened with vinegar, and applied to the skin, often induces vesication. Its effect in this respect, are perhaps too feeble to promise much good.

Laurus Sassafras, Sassafras, Enneand. Monog. Oleum.

The oil of sassafras is an excellent rubifacient remedy. In chronic rheumatism, and other affections of a local nature, it will be found a most invaluable application. It may also be combined with other stimulating oils, with advantage.

Chimaphila Umbellata, Pippsissewa, Decand. Monog. Folia.

The bruised leaves of this plant, will often induce inflammation. They are, however, too uncertain to promise much benefit in this way.

Euphorbia Corollata, Large flowering Spurge, Dodec. Trigynia, Radix.

This article I have noticed more particularly under the head of emetics. I have found that the recent root when contused, and applied to the surface, will induce vesication in twelve or fifteen hours, which goes off in the course of two or three days, without

being attended by any inconvenience. I was led to give it a trial in this way, from the circumstance of my face becoming considerably inflamed, after having handled the root.*

Ranunculus Sceleratus, Celery-leaved Crow-foot, Polyand. Polygam. Folia.

This plant is a native of Europe as well as America. It is extremely acid. If it be bruised and laid upon the surface of the body, it will raise a blister in a few hours. The beggars in Switzerland, by rubbing their legs with the leaves, are said to produce a very foetid and acrimonious ulceration.

Anthemis Cotula, Wild Chamomile, Synge. Polyand. Superflua. Herba.

I have been informed by Doctor Allen Thomas, that if the Anthemis Cotula be bruised, and applied to the surface of the human body, it will induce inflammation, and sometimes vesification.

* The milky substance which exudes from every part of the plant, when broken, I have been informed, (by some of the country people,) is a valuable application in Herpes farinosus. It is also applied to warts. I can say nothing of its effects in these cases from my own experience, but I believe that it might be found a useful remedy: as we find these affections not unfrequently yield to stimulating applications.

Juglans Cinerea, Butter-nut, Monoi. Polyand. Cortex.

The bark of the root of this tree is rather preferable to that of the body or its branches. It is said to be a pretty efficacious blister, and as such it has been applied to the bite of some of our venomous serpents. The juice of the green fruit has been found useful in cases of Herpes Farinosus.

Juniperus Virginiana, Common Red Cedar Tree. Dioecia. Monadel. Baccæ.

The leaves of this tree, when bruised and laid upon any part of the body, will induce inflammation. Applied in this way they may be found useful in some cases, in which remedies of this class are deemmed useful.

CHAPTER XVII.

Escharotics.

Doctor Murray has placed this class of remedies in the third division of the articles of the Materia Medi-

ca; the substances belonging to which, he has denominated chemical remedies. It will readily be perecived that I have taken this class from this division, and placed it in the second division, comprehending the local stimulants.

Considering the effects of the application of escharotics in dissolving the animal solids with which they come into contact, to be the result of the powerful stimulant influence which they exert; and not to be attributed to any chemical action which they display by which their effects are produced, I have been led to introduce this class among the local stimulants.

Inconsistent appears to be the sentiment of the celebrated Murray. in relation to his entertaining the opinion of escharotics producing their effects in consequence of the chemical agency which he supposes they exert, and which is peculiar to their application, as operating analogously; when from a minute examination of the articles of this kind, we are led to believe that their escharotic effects are to be ascribed to the power which they exhibit, as depending on the concentrated degree of stimulant action which they display in their producing the results which succeed their application.

Satisfactory, in a considerable degree, are the evidences which can be advanced in attestation of this sentiment. "The mineral acids act rapidly as escharotics," says Doctor Murray. These acids when suitably diluted with water, and applied to the sur-

face, are competent to the production of vesication; but when used in a concentrated form, erode or dissolve the animal solids. It, therefore, appears that they act as stimulants in their producing this effect, in as much, as, when they are weakened, their stimulant powers become evident from the inflammation and consequent vesication which they induce. Hence they cannot with propriety be denominated chemical remedies, but local stimulants.

The application of hot iron will excite inflammation and produce a blister; but when it is brought up to a red heat, it destroys the parts on which it is put; but not as a chemical agent; but from the circumstance of its stimulant power being so great, as immediately to destroy the sensibility and vitality. If it acts as a stimulant in exciting vesication, it is reasonable to infer, and that deduction upon legitimate principles, would most certainly lead us to the conclusion, that its operation in the latter way, differed only in the force, from that of the former, by which a difference of effect was brought about.

We might with as much propriety attempt to advance the idea that vesication was not the result of a stimulant impression exerted on the surface by the substance, which by its application was productive of this effect, as to suppose that escharotics did not produce these effects in consequence of a stimulant power which they exert; for by a minute examination. we can discover that blisters are produced by an increased

rubifacient power, and escharotics by an increased vesicating power.

Escharotics.

Asclepias Tuberosa	Pleurisy-root
Phylolacca Decandra	Poke
Sanguinaria Canadensis	Puccoon

Asclepias Tuberosa, Pleurisy root, Pentand. Digy. Radix.

As an escharotic, the powdered root of the Asclepias Tuberosa is sometimes used for restraining fungous flesh in ulcers.

Phytolacca Decandra, Poke, Decand. Decagy. Radix.

The powdered root of this plant, is also escharotic: but it is rather inferior to the one just mentioned.

Sanguinaria Canadensis, Puccoon, Polyand. Monog. Radix.

This plant certainly must be acknowledged, by those who are acquainted with its virtues, to be a valuable indigenous production. The powdered root is escharotic, and as such it is stated to have cured Polypi. The juice is applied by the country people, to warts, to destroy them.

DIVISION THE THIRD.

The only class of remedies indigenous to the United States, which can be introduced into this division, is that of refrigerants. The articles which are entitled to a place here, Murray, defines such substances "the operation of which either depends on the chemical changes they produce, or is materially modified by these changes."

CHAPTER XVIII.

Refrigerants.

The present class of medicines was not introduced in the former edition of this work. Influenced, however, by the desire of inviting the attention of the profession to the consideration of our native refrigerants, I have been induced to notice a few of our indigenous remedies of this kind in the present publication.

Refrigerants.

Rhus Glabrum	Sumach
Oxycoccus Mecrocarpus	Craneberry
Rubus Villosus	Blackberry
Rubus Procumbeus	Dewberry

Rhus Glabrum, Sumach, Pent. Trig. Baccæ.

The berries of this interesting species of Rhus, are considerably acid and somewhat astringent to the taste. The former property exists in a downy or pubescent substance, that upon examination will be found to invelope each berry; and the latter in the berry itself. From the analysis of this pubescent portion that has been made, it appears to contain a considerable quantity of *malic acid.* This acid it is said may be substituted for all the purposes in medicine, in which the *citric* and *tartaric acids* have been found useful.

This acid may be prepared by macerating the sumach berries in boiling rain water for five or six hours, after which it is to be passed through a filter and evaporated in a tin vessel, until it obtains the consistence of a syrup. To this syrup, a similar proportion of the spt. vini rect. should be added, in order to unite with it the acid, and leave the mucilaginous part remaining in a state of seperation. The alcohon is then to be decanted, and an equal quantity of distilled or rain water is to be added, and placed in a retort. When

the alcohol is supposed to have passed off, the heat may be removed, and the contents therein permitted to cool, which will be found to be the acid above noticed.

Oxycoccus Mecrocarpus,* Cranberry, Octand. Monog. Fructus.

The article under consideration is made known by almost every individual; but more particularly by such, as have been raised in our large cities, where it is not unfrequently preserved for the purpose of making tarts; in which form, it is generally considered by the lovers of good eating, to be one of the luxuries of this life.

The expressed juice of the cranberry possesses a considerable degree of acidity; this, however, may be neutralized somewhat, by the addition of a suitable quantity of loaf sugar. Prepared in this way, with an equal portion of water, it will be found a useful acidulous drink, in allaying thirst and lessening, in some measure, the heat of the human body when preternaturally increased. With this view, it may be exhibited as an auxiliary with the common refrigerants, in cases connected with much febrile excitement. "The expressed juice," Professor W. P. C. Barton, says, "might be preserved by a sufficient quantity of alcohol to prevent fermentation, and set aside for sum-

*This is the Vaccinium Macrocarpus of Willdenow, and the Vaccinum Oxycoccus and Oblongifolius of Michaux.

mer use, to make a kind of lemonade. A rob might also be prepared, and advantageously used in diet and medicine, by evaporating the syrup obtained from them."*

Rubus Villosus, Blackberry, Icos. Polygy. Baccæ.

A syrup prepared from the blackberries when on the turn from red to black, and suitably admixed with water, will be found a useful cooling drink in febrile affections, in which articles of the kind are allowed.

Rubus Procumbreus, Dewberry, Icos. Polygy. Baccæ.

The berries prepared from this plant in the same way as the blackberries, may be used with equal advantage.

DIVISION THE FOURTH.

The articles included within this division, may be considered as acting mechanically. In this division we only introduce the classes of Demulcents and Anthelmiutics.

* See his Flora of North America, page 61.

CHAPTER XIX.

Demulcents.

The remedies belonging to this class may be considered as being calculated to obtund the effects of irritating matters, "not" however "by correcting or changing their acrimomy, but by involving it in a mild and viscid matter, which prevents it from acting upon the sensitive parts of our bodies, or by covering the surface exposed to their action."

From the circumstance of their having the effect of lessening irritation, by their bland and soothing qualities, they may be applied externally with advantage, and given internally with benefit in affections connected with local inflammation.

Demulcents.

Ulmus Fulva	Slippery Elm
Phanax Quinquefolium	Ginseng

Ulmus Fulva,* Slippery Elm, Pentand. Digy. Cortex Interna.

This is a valuable tree. The inner bark affords by boiling, a mucilaginous substance, which may be em-

* This is the Ulmus Rubra of Muhlenburgh.

ployed as a diet drink, and will be found a useful medicine in affections of the thorax. I have found it a valuable drink in the summer complaint of children. It is highly recommended in diarrhœa and dysentery. As a topical application, it will be found useful in a number of affections.†

Phanax Quinquefolium, Ginseng, Pentand. Digy.
Radix.

The root of this plant is deserving of a place among this class of medicines. Though I believe it is seldom employed in practice.

CHAPTER XX.

Anthelmintics.

Under this head, the reader will find some articles, that are justly deserving the attention of every Ameri-

†"It forms" says Professor Chapman, "an excellent emollient poultice, even milder, it is said, than bread and milk, or flaxseed. This is a good deal resorted to in country practice, in ulcers, recent burns, chilblains, cutaneous eruptions, and in the discussion of tumours and other swellings. By many of our army surgeons, it is

can practitioner. The Spigelia Marilandica, and the Chenopodium Anthelminticum, have not only attracted the notice of our physicians, but those of Europe. These two productions may be considered the best Anthelmintics, with which the knowledge of the Materia Medica of our country acquaints us; being more certain and effectual in their operation than any others. There are others that are to be noticed as we pass on with the subject.

Anthelmintics.

Spigelia Marilandica	Carolina Pink-root
Chenopodium Anthelminticum	Worm seed
Laurus Benzoin	Spice Wood
Prunus Virginiana	Wild Cherry Tree
Cleome Dodecandra	Clammy Cleome
Podophyllum Peltatum	May-apple
Liriodendron Tulipifera	Tulip Tree
Veratrum Luteum	Blazing Star

Spigelia Marilandica, Carolina Pink-root, Pentand. Monog. Herba et Radix.

This is a perennial plant, growing wild in various parts of our country. The root is celebrated as an anthelmintic, particularly for the expulsion of lumbrici

highly esteemed in gun-shot wounds, and is said sometimes to be beneficial in arresting a tendency to mortification." There are several species of the genus Ulmus that are indigenous to this country; the present one appears to be the most useful demulcent.

from the alimentary canal, and it often affords relief where no worms are discharged. The unpleasant effects which are sometimes said to follow its internal exhibition, may be easily prevented, by giving in combination with the Spigelia Marilandica, a small quantity of the Radix Aristolochia Serpentaria. It is generally given in the form of infusion; and in the course of twelve hours after, followed by a dose of castor oil; or calomel and jallap. An infusion of the Spigelia Marilandica in wine, has been found useful in intermittent fevers. Dr. B. S. Barton recommends it in the insidious remittent fever in children, which often lays the foundation for hydrocephalus. Some persons are in the habit of using the root, while others give the preference to the plant; but I believe they differ very little from each other. If we wish to give the plant in substance, the dose should be from ten to fifteen grains.

Chenopodium Anthelminticum, Worm seed, Pentand. Digy. Herba, Semina et Oleum.

This plant is not exclusively a native of the United States: it is a native of Buenos Ayres also. Every part of it is used as an anthelmintic. The expressed juice of the plant is sometimes given in the dose of a tablespoonful, to a child of three or four years old. The powdered seed may be given in the dose of half a drachm, or a drachm to an adult. This after being continued for some days, may be followed by a dose

of castor oil, or any other cathartic. The essential oil of worm seed, is a much more certain anthelmintic: the dose for a child one or two months old, is about two or three drops. It may be given with a little castor oil; and to children of six or eight years old, eight or ten drops may be combined with a dose of jallap, or rheubarb.

Laurus Benzoin, Spice-wood, Enneand. Monog.

We are informed that an infusion of the twigs and leaves of this shrub, is often given to children, with a view to destroy and dislodge worms.

Prunus Virginiana, Wild-cherry tree, Icos. Monog. Cortex.

As an anthelmintic, an infusion of the bark of this tree, has been found useful. I know nothing of it from my own observation.

Cleome Dodecandra, Clammy Cleome, Polyand. Monog. Radix.

The root of this plant has been considered anthelmintic: perhaps future experiments will establish its virtues as being such.

Podophyllum Peltatum, May Apple, Polyand. Monog. Radix.

The root of this plant has been noticed as an anthelmintic. I am disposed to doubt of its utility as a

medicine of this kind. I have given it in a number of cases of worms, without its even proving effectual in one instance.

Liriodendron Tulipifera, Tulip-tree, Polyand. Polygy. Cortex.

Whether the Liriodendron Tulipifera, is deserving of a place among the class of anthelmintics, I leave for future experiments to determine.

Veratrum Luteum, Blazing Star, Polygam. Monog. Radix.

The root of this plant is deemed an excellent medicine in cases of worms. It may be given in infusion or decoction. I can say nothing of the virtues of this plant from my own experience.

INDEX.

A.

Page.

Acorus Calamus - - 88, 101.
Actaæ Racemosa - - 50, 72, 126, 137.
Agrimonia Eupatoria - 126, 129.
Anona Triloba - - - 180, 188.
Anthelmintics - - - 234, 235.
Anthemis Cotula - - - 89, 115, 155, 168, 220, 224.
Antispasmodics - - 76.
Apocynum Androsmiœfolium 88, 97, 155, 156.
Aralia Nudicaulis - - 88. 97.
Spinosa - - - 214.
Arbutus Uva Ursi - - 126, 128.
Aristolochia Serpentaria - 89, 115.
Sipho - - 89, 117.
Arum Triphyllum - - 209, 213.
Asarum Canadense - - 200, 202, 217.
Asclepias Incarnata - - 155, 158.
Syriaca - - - 209, 210.
Tuberosa - - 180, 183, 200, 201, 209 211, 228.
Astringents - - - - 119, 125.
Atriplex Odorates - - 84.
Suarcoteus - - 84.

B

Botrys Vulgaris - - 84.

C.

Cantharis Vittata - - - 221.
Cassia Marilandica - - 180, 183.
Cathartics - - - - 169, 180.

Page.

Chenopodium Anthelminticum 81, 84, 235, 236.
Botrys - - 84.
Chimaphila Corymbosa - 101.
Maculata - - 89, 102, 214, 215.
Umbellata - { 88, 101, 126, 129, 194, 197, 214, 215, 220, 223.
Chironia Angularis - - 88, 95.
Cicuta Maculata - - 50. 65.
Cleome Dodecandra - - 235, 237.
Comptonia Asplenifolia - 126, 139.
Convolvulous Panduratus - 180, 182, 194, 196.
Coptis Trifolia - - - 89, 105.
Cornus Circinata - - - 88, 90.
Florida - - - 88, 91.
Panaculata - - 88. 93.
Sericea - - - 88, 93.
Cunila Mariana - - - 88, 89.
Pulegoides - - 88, 90, 192.

D

Datura Stramonium - - 50, 55.
Tatula - - - 50, 62.
Daucus Carota - - - 194, 196.
Demulcents - - - 233.
Diaphoretics - - - 199, 200.
Dirca Palustris - - - 155, 159, 220, 223.
Diuretics - - - - 193, 194.
Division the first - - 47.
second - - 141.
third - - 229.
fourth - - 232.
Dyospyros Virginiana - 126, 140.

E

Emetics - - - - 142, 155.

Page.

Emmenagogues - - 190.
Epispastics and Rubifacients - 218, 220.
Errhines - - - - 216, 117.
Eryngium Aquaticum - - 200.
Zuccifolium - 194, 196.
Erythronium Americanum - 155, 158.
Congifolium - 158.
Flavum - - 158.
Lanceolatum 158.
Escharotics - - - - 225, 228.
Eupatorium Connatum - 111.
Perfoliatum - 89, 111, 155, 168, 180, 188, 200, 205.
Pilosum - 114.
Zeucrifolium - 89, 114.
Virginianum - 111.
Euphorbia Corollata - - 155, 162, 200, 203, 209, 211, 220, 223.
Hypericifolia - 126, 130.
Ipecacuanha - - 155, 162.
Expectorants - - - 207, 209.

F.

Frasera Caroliniensis - - 88, 94.
Walteri - - 94.

G.

Gaultheria Procumbens - 50, 70.
Gentiana Catesby - - 88, 99.
Geranium Maculatum - - 126, 138.
Robertianum - 126, 139.
Geum Rivale - - - 126, 136.
Gillenia Stipulaceœ - - 155, 166.
Trifoliata - - - 155, 165.

H.

Huchera Americana - - 125, 126.

Page.

Huchera Cortusa - - - 126.
Viscida - - 126.
Humulus Lupulus - - 50, 73, 89, 117, 194, 199.
Hydrastis Canadensis - 89, 109.
Hyosciamus Luteus - - 51.
Niger - - 51.

I.

Ilex Vomitoria - - - 155, 194, 195.
Iris Verna - - - 180, 181.
Versicolor - - - 180, 181, 194.
Virginica - - 180.

J.

Juglans Cinerea - - - 221, 225, 180, 189.
Juniperus Virginiana - 221, 225, 198.

K.

Kalmia Angustifolia - - 50, 72.
Latifolia - - 50, 71.

L.

Laurus Benzoin - - - 235, 237.
Sassafras - - 200, 205, 220, 223.
Liriodendron Tulipifera - 89, 108, 235, 238.
Lobelia Inflata - - - 155, 167, 209, 212.
Syphilitica - - 194, 198.
Lycopus Virginicus - - 49, 50.
Lytta Atrata - - - - 221.
Cinerea - - - 221.
Marginata - - - 221.
Vittata - - - 220, 221.

M.

Magnolia Acuminata - - 89, 106.
Glauca - - 89, 105.
Grandiflora - - 89, 107.
Tripetala - - 88, 107.

Page.

Memjanthes Trifoliata - - 88, 96.
Myrica Cerifera - - 126, 140, 217, 218.

N.

Narcotics - - - - 48, 49.
Nicotiana Rustica - - 49, 50, 155, 158, 180, 182, 194, 195, 209.
Tabaccum - 49, 52, 155, 157, 180, 182, 194, 195, 209.
Minor - - 51.

O.

On the classification of the articles of the Materia Medica 37.
On the improvement of the Materia Medica - 9.
Orobanche Virginiana - 126, 137.
Oxycoccus Mecrocarpus - 230, 230.

P.

Petum - - - - 52.
Phanax Quinquefolium - - 233, 234.
Phytolacca Decandra - 155, 159, 228.
Podophyllum Peltatum - - 180, 184, 235, 237.
Polygala Polygama - - 110.
Rubella - - - 89, 110.
Senega - - 155, 167, 191, 192, 209, 212, 214, 215.
Populus Tremula - - - 89, 118.
Potentilla Reptans - - 126, 135.
Prinos Verticillatus - - 88, 100.
Prunus Virginiana - - 89, 103, 235, 237.
Pyrola Maculata - - - 102.
Umbellata - - 101.

Q.

Quercus Rubra Montana - 126, 140.

Page.

R.

Ranunculus Sceleratus - 220, 224.
Remarks on the modus operandi of medicines - 23.
Rhus Coriaria - - - 126.
Glabrum - - 125, 126, 230.
Radicans - - - 50, 69, 220, 222.
Toxicodendron - 50, 67, 220, 222.
Vernix - - - 50, 70, 220, 222.
Rubus Procumbens - 126, 136, 230, 232.
Villosus - - - 126, 135, 230, 232.
Rumex Acutex - - 180, 183.

S.

Sabatia Angularis - - - 95.
Sanguinaria Canadensis - 155, 166, 200, 203, 209, 211, 217, 218, 228.
Scutellaria Galericulata - - 110.
Hysopifolia - 110.
Integrifolia - - 110.
Lateriflora - 81, 84, 89, 109.
Sialagogues - - - 214.
Solanum Dulcamara - - 50, 63.
Fœtidum - - 55.
Maniacum - 55.
Solidago Odora - - - 89. 115.
Sophora Tinctoria - - 155, 159, 200, 202.
Spirea Tormentosa - - 126, 134
Statice Caroliniana - - 125, 127, 209, 211.
Limonium - - - 127.
Symplocarpus Angustispatha 81, 83.
Fœtida - - 81.

T.

Table of Classification - 46.

Page.
Trifolium Aquaticum - - 96.
Fibrinum - - 96.
Paludosum - - 96.
Triosteum Perfoliatum - 180, 181, 194, 196.

U.

Ulmus Fulva - - - 233.
Rubra - - - 233.

V.

Veratrum Luteum - - 89, 119, 235, 238.
Viride - - 50, 74.

Z.

Zanthorhiza Apiifolia - - 88, 99.
Simplicissima 99.
Tinctoria - - 99.
Zanthoxylum Clava Herculis 214.
Fraxinifolium - 214.

FINIS.

ERRATA.

Page	14, *line*	22,	for *Papauer*, read Papaver.
	14,	27,	for *amesis*, read emesis.
	26,	9,	for *admonished*, read administered.
	30,	17,	for *the*, read these.
	33,	2,	for *entering*, read enter.
	37,	15,	for *sympathetick*, read lym phaticks.
	39,	11,	for *instace*, read instance.
	48, *note*,		for *diminuation*, read diminution.
	50, *line*	19,	for *deulate*, read dentale.
	52,	23,	for *acid*, read acrid.
	55, *note*,		for *Baupin*, read Bauhin.
	58, *line*	5,	for *vegetable*, read vegetables.
	65,	12,	for *Penland*, read Pentandria.
	66,	14,	for *fine*, read five.
	72,	19,	for *actæd*, read actœa.
	74,	23,	for *Mouœcia*, read Monoicia.
	75,	26,	for *Professor Bigdow*, read Professor Bigelow.
	81,	14,	for *Mildenow*, read Wildenow.
	81, *note*,		for *th*, read the.
	85, *line*	25,	for *sanquiferous*, read sanguiferous.
	88,	18,	for *Carolinceusis*, read Caroliniensis.
	88,	21,	for *Androsomifolium*, read Androsœmifolium.
	89,	18,	for *Aspiu*, read Aspin.
	90,	12,	for *Diana*, read Diandria.
	94,	10,	for *Carolinicusis*, read Caroliniensis.
	96,	10,	for *Frifoliata*, read Trifoliata.
	96,	12,	for *o*, read of.
	96, *note*,		for *Frifolicum* and *Frifolium*, read Trifolium.
	103, *line*	5,	for *deutated*, read dentated.
	104, *note*,		for *Pherapeuticks*, read Therapeuticks.
	105, *line*	18,	for *Magnolia Glanca*, read Magnolia Glauca.
	107,	14,	for *Jacod Dyckman*, M. D., read Jacob Dyckman, M. D.
	109,	10,	for *of*, read or.
	112,	10,	for *Eupatorim*, read Eupatorium.
	121,	12,	for *construction*, read constriction.
	122,	12,	for *dmunition*, read diminution.
	124,	18,	for *antiphilogistick*, read antiphlogistick.
	125,	11,	for *is not the case*, read is the case.
	126,	9,	for *water aveus*, read water avens.
	126,	26,	for *this*, read the.
	127,	9,	for *to to*, read to.
	134,	18,	for *case*, read use.
	134,	27,	for *Plasta*, read Planta.
	139,	11,	for *denomination*, read administration.
	139,	12,	for *administration*, read denomination.
	140,	8,	for *Sulphus*, read Sulphas.
	151,	6,	for *encrgies*, read energies.
	155,	20,	for *Hex Vomitoria*, read Ilex Vomitoria.
	158,	12,	for Doctor *Fully*, read Doctor Tully.
	159,	3,	for *Menog.*, read Monogynia.
	160,	9,	for Professor *Rigelow*, read Professor Bigelow.
	166,	6,	for *flowered*, read flowering.
	174,	16,	for *Tonsillais*, read Tonsillaris.
	180,	17,	for *Juglans Cinerea*, read Juglans Cinerea.
	220,	1,	for *occasions derivation*, read occasions a derivation.
	231,	7,	for *made known*, read known.

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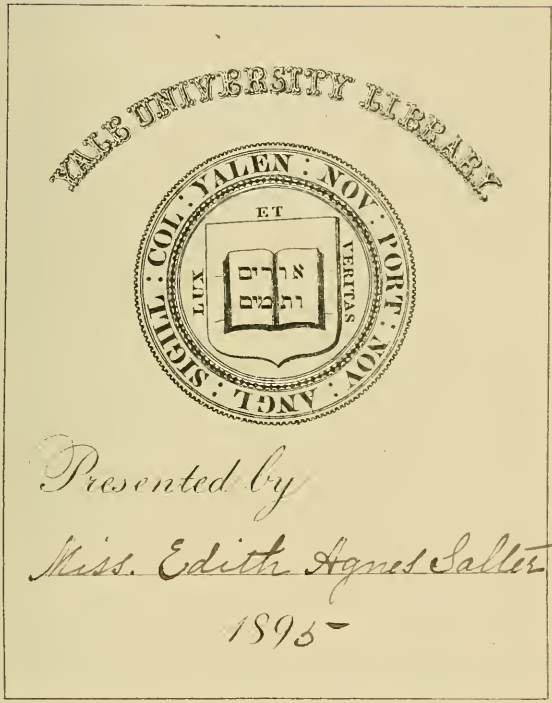

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